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ABSTRACT

Over a four year period, the Continuation Education System Development Project will develop a practical instructional system capable of continuous identification and efficient response to the most critical needs of individual continuation students or those who have been pushed out of, or have dropped out of high school; in La Puente, California. This report is concerned with present student characteristics. Five major sections are included: (1) procedures, (2) critique of procedures, (3) findings, (4) summary, and (5) tables. The data were researched and reported in three separate categories: population characteristics, behavioral probability, and present academic performance capabilities. (See CG 004 283, CG 004 402, and CG 004 409). The research reported herein was funded under Title III of the Elementary and Secondary Education Act. (Author/KJ)

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CG 004 401

CONTINUATION EDUCATION SYSTEM DEVELOPMENT PROJECT

LEON EAST
project director

TECHNICAL REPORT

1.1

PRESENT STUDENT CHARACTERISTICS

LA PUENTE UNION
HIGH SCHOOL DISTRICT
La Puente, California

1968

CG 004 401

ED034215

Continuation Education
System Development Project

Technical Report 1.1

PRESENT STUDENT CHARACTERISTICS

Leon East, Project Director

J. Alan Jensen, Principal Investigator

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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La Puente Union High School District
La Puente, California
1968

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FOREWORD

The CONTINUATION EDUCATION SYSTEM DEVELOPMENT PROJECT is operated by the La Puente Union High School District according to the terms of a grant award authorized by Title III of the Elementary and Secondary Education Act of 1965 (Public Law 89-10).

Over a four year period, September, 1967 through August, 1971, the PROJECT will develop a practical instructional system capable of continuous identification and efficient response to the most critical instructional needs of individual continuation high school students in La Puente.

Continuation high school students in La Puente are those who the traditional system has been unable to accommodate or who have been unable to accommodate the traditional system. Their usual label is "pushout" or "dropout."

The first project year (1967-68) has been spent identifying the instructional needs of these students.* During

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*Technical Reports in this phase of the study:
(1.1) Present Student Characteristics
(1.2) Student Performance Requirements: Military Situations
(1.3) Student Performance Requirements: Other Educational Situations
(1.4) Student Performance Requirements: Employment Situations
(1.5) Performance Adequacy for Home and Community Living
(1.6) Operational Limits
(1.7) Instructional Needs

year two, an instructional program will be designed to meet those needs. Year three will see implementation and tryout of subsystems. Year four will provide for full system tryout with transfer of all functions to the permanent school staff.

Throughout the Project, system analysis and other modern management control and planning techniques will be employed. It is hoped that this new problem solving technology of the defense and aero-space industries can be applied as well to the problems of education.

It is the mission of the PROJECT not only to solve a particular set of problems in La Puente, but to provide a problem solving model for other school districts with similar conditions. Consequently, an effort has been made to describe procedures in such detail that they can be used as guidelines by others.

If further information or interpretation can be provided the PROJECT staff will be pleased to respond to your inquiries.

La Puente, California
December, 1968

LEON EAST
PROJECT DIRECTOR

PROCEDURES

In January, 1968, the task was assigned of identifying the characteristics of the student population which must be observed in the design of an instructional program.

The procedures for completing this task involved identifying the relevant kinds of information about these students which would be of use to the system designer. The Project staff had to identify the most appropriate sources for these data, and to select the best techniques for collecting and measuring them. During the early phases of this research, experts were consulted for their advice on measurement techniques and experimental designs. The staff also explored other studies which concerned continuation education, and which suggested experimental designs and techniques relevant to this part of the Project's efforts. In some cases, established techniques and standardized measurements were adapted to Project purposes. In other cases, the staff had to create its own measurement instruments.

Before testing was initiated, in-service training for the test administrators was necessary in order to insure proper evaluative controls in the data gathering activities. During this phase, questionnaire and interview techniques were piloted. Cooperation between the Project staff and the other agencies involved was also established.

I. Identification of Data Needed

Basically, this Project is describing the unique and typical characteristics of the student population at Valley High School. The major objective is to determine whether there are sufficient differences within the population to affect the modes that an instructional system can employ as academic stimuli. The basic premise is that continuation students are an atypical population. By definition the continuation student is different. The objective is to identify these differences, as well as the differences within the population distribution, to program meaningful and acceptable academic stimulation to the students, including their various sub-groups.

The continuation high school population appears to deviate from the normal high school population in aspects which determine success or failure in the normal high school. It is assumed that the student's presence in continuation high school is dependent upon his attitudes, his motivation, his behavior, and his general performance in the academic setting. It is therefore necessary to obtain measures of his performance in these areas for the development of a curriculum based on the needs and limitations of the student.

A. Quantity Descriptors

An important step in identifying the data needed began with drawing up a definition of "quantity descriptor." Quantity descriptor is defined as a numerical evaluation of the population. Such an evaluation includes:

1) The total population of Valley High School as of the beginning of testing
2) The male/female student ratio
3) The attendance patterns of the male and female population

4) The attrition rate of the original population, as well as the constant influx of new students.

B. Socio-Economic Descriptors

Other elements relevant to an assessment of the population include:

1) The socio-economic status of the student's family
2) The student's ethnic group membership
3) Data on familial structure, including marriage patterns of parents, mobility of parents and number of siblings in the student's family
4) The amount of special education the student has received
5) Stated student discipline problems
6) Reason for referral to Valley High School.

C. Physical Descriptors

Physical information is also necessary to assess the student population. The necessary physical information was defined as the students' physical ability to sense and respond to instructional stimuli. It encompasses:

1) General health information (historical and familial)
2) Individual health history including illness, accidents, operations, medical visitation practices, and school absences, their cause and treatment
3) Present general health status encompassing blood pressure and pulse rate, height and weight, apparent nutritional condition, speech condition, patterns and re-medication, dental examination, audiological information (including audiological examination), visual information including Snellen Chart screening, sight screener and telebinocular testing

4) Assessment of hand preference

5) Examining nurses recommendations.

D. Behavior Probability Indicators

Factors considered as determinants of the continuation high school student's predisposition to perceive and respond to instructional stimuli were also identified. These include preconscious attitudes in seven general areas:

1) Instruction and curriculum
2) Self-concept
3) Authority relationships
4) Goal orientation
5) Peer relationships
6) Moral and social values
7) Family relationships.

E. Academic Performance Capabilities

An identification of academic performance capabilities of the student population is also required in order to derive the instructional needs of the student. An academic profile can be compared to the collected behavior expectations; and, the difference between the two provides a guideline for the development of the curriculum for the projected system.

In order to identify the basic academic and performance capabilities of the student population, scholastic achievement and general aptitudes must be determined. Scholastic achievement encompasses the language, reading, spelling and computational areas. Student achievement may be defined as tested ability to: use language, comprehend selected reading, spell accurately, comprehend numerical concepts, perform general arithmetical operations and reason abstractly. General aptitudes are measured in terms of: verbal aptitude, numerical aptitude, spatial aptitude, form perception, clerical perception, motor coordination, finger dexterity, manual dexterity and a general learning aptitude.

F. Social Capabilities

The assessment of the student's capability to perform in social situations was performed as a part of this Project's assessment of the expectations of other educational systems. The procedures used and the findings are reported in another section of the Project's Final Report for Year I.[1]

G. Family and Citizen Capabilities

The assessment of the student's capabilities to perform successfully in family and community situations was performed as a part of this Project's assessment of home and community performance expectations. The procedures used and the findings are reported in another section of the Project's Final Report for Year I.[2]

II. Data Sources

The testing of the total population of continuation-eligible students was suggested as a primary research source by Dr. Henry Johnson, Project Consultant. It was finally agreed that continuation-eligible students often become high school dropouts, if they are not referred to continuation education. The location and testing of continuation-eligible students who have already become dropouts would be a difficult task at best. It was, therefore, decided that the target population are those students referred to Valley High School within the La Puente Union High School District.

The Valley High School student body was designated as a homogeneous population to facilitate the use of a "block design." The total population (N=276) was divided into three groups designated Group A, Group B, and Group C. Group A was composed of those students who are enrolled at Valley High School and who attend classes more than fifty percent of the time. Group B was composed of enrolled students who attend less than fifty percent of the time, and Group C was composed of those students who have been referred to Valley High School but who are not presently attending. Further sub-division of each group was done on the basis of sex and point of origin (referring high school).

The following is a table of the "N's" of each sub-group within the total population:

Males

Total Male Population = 202
Total Group A = 75 50% = 38
Total Group B = 88 50% = 44
Total Group C = 39 50% = 20

Total males to be tested =102

Females

Total Female Population = 74
Total Group A = 34 50% = 17
Total Group B = 31 50% = 16
Total Group C = 9 50% = 5

Total females to be tested = 38

Total Testing Male and Female =140

Individuals within each sub-group were selected for testing on a randomized basis and the 1:3 ratio (females to males) was kept constant.

III. Data Collection Instruments

Specialists were consulted as to the kinds of data collection instruments that could be used to gather scholastic information about the continuation students. The first step was to define basic academic and performance capabilities, and how the acquired information would correlate to specific requirements of curriculum designers.

Expert consensus[3] was to employ standard measures of scholastic achievement, general aptitudes, and basic computational skills. The measures which were selected are as follows: The *California Achievement Test* (CAT) which provides measure, evaluation and diagnosis of school achievement; the *Wide Range Achievement Test* (WRAT) which provides accurate diagnosis of reading, spelling and arithmetic disabilities as well as the determination of the instructional levels in school children; and the General Aptitude Test Battery (GATB) which yields nine aptitude scores from twelve tests and provides detailed student vocational aptitudes.

Selection of the CAT was based on the following considerations:

1) Since the CAT is accepted and used in the La Puente Union High School District, it represents an indirect measure of current classroom curriculum taught in that district.

2) The CAT is easy to administer, to score and to interpret.

3) The CAT is inexpensive and readily data processed.

4) Data processing procedures for the CAT are currently in use and are available through the Los Angeles County Superintendent of Schools.

5) The CAT is designed for individual item analysis.

6) This standardized test provides diagnostic information of student academic achievement in word-recognition (vocabulary) and understanding word-groups (reading). The mathematics section of the CAT will be used as a measure of the continuation student's ability to compute problems and reason arithmetically.

Selection of the WRAT was based on the following considerations:

1) It is an accurate diagnosis of reading, spelling, and arithmetic disabilities.

2) It determines instructional levels of all students.

3) It provides the assignment of students to instructional groups progressing at similar rates and their transfer to faster or slower groups in keeping with individual learning rates.

4) It establishes the degrees of literacy and arithmetic proficiency of mentally retarded persons.

5) It indicates the ability of the student at various occupational levels.

6) It provides a comparison of school achievement and other abilities in all individuals, especially those who are disturbed or maladjusted.

7) It provides a relationship between reading mechanics and comprehension; between computation and number concepts as measured by other means.

8) It is short, inexpensive and easy to administer and to score.

9) It has a potential value as a possible screening device for future continuation high school students.

10) Standard scores obtained on the WRAT correlate highly with I.Q. scores derived from the _California Test of Mental Maturity_, the _Weschler Intelligence Scales_ and the _Stanford Binet_.

Selection of the _General Aptitude Test Battery_ (GATB) was based on the following considerations:

1) It will establish vocational aptitude profiles of the Valley High School students.

2) The GATB correlates with the United States Employment Services (USES), _Dictionary of Occupational Titles_ (DOT).

3) It is accepted by the "world of work" as an occupational yardstick.

4) Test materials and equipment needed may be easily obtained from the California State Employment Services (CSES).

5) CSES will provide test administrators and proctors to assist Continuation Education System Development Project in test administration and procedures at a rate of $2.94 - 3.57 per hour.

6) Data processes will be provided by California State Employment Services at no charge.

7) It provides a measure by use of the "G factor," which correlates scholastic success with intelligence or general learning

> ability. The GATB also correlates with specific performance variables including motor coordination, finger dexterity and manual dexterity.

The use of standardized test measures alone as a primary data source for academic capability was debated. The alternative was a selection and construction by the staff of special tests tailored to continuation students at Valley High School. It was finally agreed that the primary, standard scholastic test measures should be utilized. The rationale for this was that without validated norms with which to compare population scores, the resulting information would have little external validity.

The Recorded Historical Information (RHI) (see Table XIV , infra) was developed to obtain the necessary information from the student's "Cum" folder. This folder traditionally provides a record of the student's academic and behavioral performance from the time of first enrollment in school until the present day. Information available in the "Cum" folder can be recorded easily on the RHI in an organized and standardized fashion, after one brief training session. The format permits data processing. Specific questions on the RHI correlate highly with items on the SOC and will be designed to provide other information needed. Teacher's and administrator's recorded observations of student behavior are also found in the cumulative records of each student and are included in the Recorded Historical Information.

The Sociological Questionnaire (SOC) (see Table XV , infra) was based on the Student Data Service and adapted for the needs of Valley High School. The SOC has as its primary purpose provision of non-academic information not readily available from other sources. The SOC can be easily administered in an individual or group setting. The language level is suitable for this type of population; it presents no reading difficulties or built-in cultural biases. Test anxiety can be held to a minimum as there are no right or wrong answers. The content is tailor-made and standardized for the Valley High School population, thus giving needed information about the home environment, socio-economic variables and educational goals as seen by the student himself. The SOC can be scored by hand and results can be handled by data processing procedures.

Factors considered as determinants of the continuation high school student's predisposition to perceive and respond to instructional stimuli are further identified by the student's expressed attitudes toward instructional stimuli as measured by the Meaning of Words Inventory (MOWI). (See Table XVII, infra.) The MOWI measures preconscious attitudes toward seven general areas: a) instruction and curriculum; b) self-concept; c) authority relationships; d) goal orientation; e) peer relationships; f) moral and social values; and g) family relationships.

Selection of the MOWI was based on the following considerations:

1) The format appeals to students.
2) There are no right/wrong answers and as a consequence has minimal test anxiety.

3) It is short and easy to administer individually and in groups.

4) Minimum reading skills are required.

5) Test is bi-lingual to accomodate the large Mexican-American population of Valley High School.

6) It is ambiguous and, as a consequence, permits expression of pre-conscious attitudes.

7) It measures motivational areas relative to educational achievement.

8) It has been used previously and validated in the Los Angeles County School District.

9) Mr. Bruce Strem, Ph.D., who assisted in the development and validated the MOWI, is available as a consultant.

Predisposition to perceive and respond to instructional stimuli are also measurable by the continuation student responses to the Sentence Completion Test (SCT) and the Instructional Preference Scale (IPS). (See Table XVIII, infra.) These instruments are designed to ascertain student attitudes toward a variety of instructional stimuli items, instructional response items and instructional reinforcement items.

A list was drawn up of every possible experience a student could have in an instructional setting that would serve as a learning factor. These were narrowed to seventy-six including: thirty-two instructional stimulus items, thirteen instructional response items, and thirty-three instructional reinforcement items. From these seventy-six items, thirty-two were chosen on a matched percentage basis for the Sentence Completion Test.

Selection of the Instructional Preference Scale and Sentence Completion Test was based on the following:

1) The format appeals to students.
2) There are no right/wrong answers and as a consequence has minimal test anxiety.
3) The IPS is easily administered to a large group.
4) No reading skills required in either (read aloud by test administrators).
5) They measure student's predispositions to respond to a variety of instructional stimuli, responses and reinforcement items.
6) Since the same items are used on both, they serve to cross-validate each other.

Student predispositions are also indicated by teacher's observation of student behavior in a specified test situation. Two instruments, Faculty Questionnaire and Teacher Evaluation Survey, were used for this purpose. (See Table XIX , infra.) The former required short statements by the teacher relevant to the effects of testing on the student. The latter provides information on student response patterns and an assessment of these patterns on individual tests in the battery. Selection of the Faculty Questionnaire and Teacher Evaluation Survey were based on the following considerations:

1) These two measures were developed to collect observational data of the teachers after they have assisted in administration of the CESDP test battery.
2) These two measures will be given to the teachers immediately after the testing so that assessment will not be retrospective.

3) The Faculty Questionnaire is an open-ended survey.

4) The Teacher Evaluation Survey is a forced-choice measure.

After the instructional needs of the students at Valley High School are identified, decisions will have to be made regarding which needs can be feasibly provided for in the curriculum. The physical limitations of the continuation high school students could influence these decisions. Developmental retardation, neurological sensory and communication deficiencies are important determinants of learning abilities. General nutritional inadequacies and poor present health status cannot help but affect school performance, as do any disabling or chronic diseases.

Physical data has been obtained from a combination of the Cumulative folders and a Physical Profile. (See Table XVI , infra.) As stated, data from the "Cum" folder was condensed by means of the RHI. This facilitates organized and standardized information gathering from the folders, as well as an item analysis of historical health information on both a general and individual basis. Other physical data is derived from the Physical Profile, which was developed specifically to meet the needs of Valley High School students. Recommendations submitted by the examining nurses on the Physical Profile provide an additional source of physical data. The Physical Profile does the following:

1) It presents general health information and documents such information.

2) It identifies specific hearing range of each student and documents observations.

3) It identifies specific visual acuity of each student and documents observations.

4) It identifies cerebral dominance and laterality and documents observation.

5) It summarizes each student's health status.

6) It offers the nurses recommendations.

The Physical Profile was developed specifically for Valley High School students. It was also constructed in such a way that all information obtained could be handled through data processing.

Two school nurses were employed as research associates to explore legal aspects of school nursing as related to continuation education. They assisted in the development of an efficient means to measure health information. Mrs. Sue Lohr researched and reported the legal aspects. Mrs. Georgina Zike researched methods for gathering health information, and constructed the first rough draft of the Physical Profile. She then assisted the staff in revising it into its final form.

IV. Data Collection Procedures

A. Consultation and Conferences

During the months of November, December and January, the Continuation Education System Development Project contacted various experts in the field of data collection to assist and direct the Project in its overall objectives. Henry Johnson, Ph.D., Director of Testing at California State College at Long Beach, was consulted as an expert in test and measurement procedures. Dr. Johnson is also a known authority and expert in Mexican-American population characterisitcs. Since the La Puente Union High School District has a high percentage of Mexican-Americans, the selection of tests involved consideration of the typical differences between Mexican-Americans and other ethnic groups at Valley High School. Mr. Don Goodwin was contacted as the initial systems analyst consultant in an attempt to develop an overall procedure for data gathering. Mr. Bill Foist from Systems Associates, Inc., was also consulted as a systems analyst to finalize the organizational approach to data gathering. Mr. Art Franco, a resident of La Puente, and an active participant in civic affairs both at the community level and as a teacher at Whittier High School, was contacted as a public-relations expert with knowledge of the Mexican-American adolescent population. Bruce Strem, Ph.D., USC School of Medical Research, was consulted as an educational pyschologist to develop psychological measurements appropriate to the La Puente Union High School District Continuation Education population. Mr. Jim Nivette of the Los Angeles County Superintendent of Schools Research and Guidance Division assisted in the preparation of the research design to be utilized by the staff. Within the framework of the design, he suggested test procedures and methods of implementation. Dr. George Sitkei, Ed.D. and Mrs. Elsie Sinrod, also of the Los Angeles County Superintendent of Schools Research and Guidance Division, were consulted regarding basic electronic data processing techniques and procedures available.

Group conferences were held with the above consultants from

November to January. During this period of time, it was determined that information regarding academic and vocational skills, social and historical data, psycho-social, attitudinal traits and physical assessment was necessary. These requirements were subsumed under the term "Student Population Characteristics."

The determination and identification of data sources in this phase of the research involved a liaison with California State Employment Services. This included contact with the local department of employment as well as the regional office to determine the availability of GATB materials, test techniques, and data processing measures. Scheduling of testing and the employment of part-time staff members was coordinated with Mr. Gall and Mrs. Avery of the regional office, and Mr. Baugh and Mr. Stonebraker of the West Covina office. This part of the research design was formed through discussions among Project members, Project consultants (Dr. Henry Johnson, Long Beach State College and Mr. Bill Foist, Systems Associates, Inc.) and consultants from the research and guidance section of the Los Angeles County Superintendent of Schools (Dr. George Sitkei, and Mr. Jim Nivette). A parallel function involved acquisition of specific test materials and coordinating efforts with the Western Psychological Association, the California State Employment Services, the Hudson School District, the West Covina Unified School District, and the Covina-Valley Unified School District.

Upon conclusion of all administrative conferences, a specific data collection plan was synthesized and submitted to Project management for approval. During this time brief consultations were held with

Project members and experts in the field of data collection.[4]

B. Operational Plans

Procedures used in the data collection were as follows:

1) Compile a student population list complete with names, addresses and telephone numbers.

2) Assign students to categories of: attendance, sex and ethnic group. For identification purposes, students will also be assigned to recommending high school category.

3) Using a table of random numbers, select sample.

4) Devise and obtain test materials.

5) Make arrangements with Valley High School and Valley Vocational Center administrators so that test times, materials and teachers to assist in planning and administration can be allocated.

6) Hold in-service training sessions for teachers and assistants.

7) Determine field interviewing techniques for Group C (non-attenders) based on role-playing, encompassing problems of interviewing "hard-core," non-attending continuation high school students.

8) Administer test battery (all).

9) Reduce data.

10) Document findings.

C. In-service Training

Coordination of Valley High School staff members and the research associates was performed by the Project's directing staff member. This involved the orienting of both research associates and employed teachers toward the Project's objectives, as well as the preparation and performance of the specific tasks necessary. In-service training included the "role-playing" of test administrations, attempting to portray characteristic reactions of students; and, preparation and scheduling of academic tests. Scheduling and programming of test procedures was an administrative function performed by the behavioral analyst and Valley High School staff members. Specific procedural tasks were assigned and distributed to team members during the key week preceeding tests.

In-service training was held for the Valley High School staff throughout the data collection phase. This included three, one-hour sessions at which time the entire program was discussed. (See Table IV, 2, infra.) These sessions focused upon teacher involvement and student involvement as related to Continuation Education System Development Project's objectives and requirements.

Reorientation and in-service training was again provided to Valley High School staff for the administration of the Wide Range Achievement Test. This involved coordinating and programming Valley High School and Valley Vocational administrators as well as in-service training and more "role playing" with the research associates prior to actual test encounter with the student body at Valley High School.

One of the primary objectives of the Project was to utilize available teacher talent in the local school districts to assist in the research. This involved contacting principals and other administrators in the La Puente Union High School District for their recommendations of credentialed people currently employed within the district.

At the same time, the Project searched professional ranks for qualified people who could add their knowledge and experience in dealing with continuation education populations. Professional talent and materials were available through local universities and college job placement centers, local high schools, nearby high school and elementary school districts, as well as through county and city facilities.

D. Obtain Testing Materials

Specific testing materials were obtained March 7 - 11, from Western Psychological Association, California State Employment Services, Hudson School District, West Covina Unified School District, and the Covina-Valley Unified School District. The materials included: 300 pencils (IBM), 200 CAT Protocals (junior high school level), 200 WRAT and GATB, two reams scratch paper and two stop watches.

E. Schedule and Program Test Procedures

Scheduling and programming of test procedures was an administrative function performed by Project and Valley High School staff members between March 18 - 20. (See Table VIII, infra.)

The Project's population survey held group measurement (six to eight, and eight to twenty students) as an objective. Testing was initiated in the classroom where the students normally report for their first class. Movement of students was kept to a minimum, and when possible a teacher was in the room to assist test administration. Student-teacher ratio was kept between 6:1 and 8:1 for optimal proctoring. Test administrations began twenty minutes after school was officially in session and lasted three and one-half hours with two ten-minute breaks, and one twenty-minute break. Actual test time per day was less than two hours when instruction and material disbursement is considered. Testing began on Thursday, March 21, 1968, and concluded on Thursday, April 26, 1968.

Test procedures and dates for administering tests to non-attending continuation students were formulated March 18 - 20. These included:

1) Letter of introduction
2) Invitation to students to attend further testing sessions at Continuation Education System Development Project office
3) In-service role-playing training encompassing problems of interviewing "hard core," non-attending continuation students
4) Mapping, routing and field assignments to assistants
5) Test materials assigned.

Those students who were absent on regularly scheduled test dates were scheduled for residual testing April 1 - 4.

Test items for those students absent on regularly scheduled test dates were prepared by research assistants during March 18 - 20.

File cards for each student were developed to expedite data gathering. After first test administration, student names, test numbers, and official coding numbers were entered on the file card. (See Table VII, infra.) The test number plus the coding number became the permanent identification number of that student. All tests taken by the student were entered on file cards for that student and all tests were numbered with the student's permanent identification number.

V. Reduction of Data

Statistical procedures and treatment of IBM "output" data in accordance with necessary population descriptors per research design was accomplished by contacting population research experts.[5]

All consultants agreed that output data was best justified by reporting descriptive information pertinent to the population. Such descriptors provide data which best identifies the limitations and constraints which the population at Valley High School will impose upon system designers. They agreed upon the necessity for regarding this population as a changing, rather than static, entity. They confirmed the necessity for handling this population in terms of three separate groupings: Group A, which attends more than fifty percent of the assigned time; Group B, which attends less than fifty percent; and Group C, which has been referred and never enrolled, or has been enrolled and never attended. Items such as ethnic group membership and socio-economic status indicate broad factors such as general language patterns, values relevant to schooling and sub-cultural norms which influence learning and behavior patterns. Data on familial structure gives additional information relative to behavior patterns of the student, length of stay in a given school as well as in a given area.

During this data reduction phase, it was also necessary to determine statistical procedures for treatment of the output data. The simple difference in statistical percentage between two variables is not necessarily important in terms of statistical probability. The analysis of the needs assessment survey results has incorporated a statistical test of "significance" in order to assure maximum reliability for the conclusions reached. Throughout this survey analysis, the Chi-Square test was employed to measure the chance that a particular result might have happened by accident of sampling. No aspect of the conclusions has been characterized in this report as being "significant" unless a Chi-Square test, a "t" test, or a test based on the pooled critical ratio formula, showed at least the five percent level of significances. (See Table II, 1 - 5, infra.)

All data was collected and reduced between June and August. Data was finally synthesized by August 13.

NOTES

[1] Continuation Education System Development Project, Student Performance Requirements, "Other Educational Situations," La Puente Union High School District, La Puente, California, September, 1968.

[2] Continuation Education System Development Project, Student Performance Requirements, "Home and Community Situations," La Puente Union High School District, La Puente, California, September, 1968.

[3] Dr. Henry Johnson, Director of Testing at Long Beach State College and Bill Foist, of Systems Associates, Inc.

[4] Systems Associates, Inc., Los Angeles County Superintendent of Schools Research and Guidance Consultants, individuals in the La Puente Union High School District familiar with test items selected, and the established advisory council utilized by the Continuation Education System Development Project.

[5] Consulted population research experts were: Jerry Garlock, Ph.D., Director of Research, Los Angeles County Superintendent of Schools; Jim Harsh, Ph.D., Director of Research, California Education Testing Service; Dr. Mormon, California State College at Los Angeles; George Sitkei, Ph.D.; and Mr. Jim Nivette.

CRITIQUE OF PROCEDURES

During synthesis and documentation of obtained data, anecdotal records were kept by staff members to provide a basis for a personal critical review. This review uses as a baseline how a project of this kind should proceed under optimal conditions. The following remarks are offered as an effort at self-evaluation, and also as a possible guide to those who plan a project of a similar nature. This part of the Project staff has made many mistakes and discovered much by trial and error. Some selections, however, were more effective than anticipated.

RESEARCH DESIGN

A pilot project, utilizing key students in the Valley High student body would have been of tremendous help. It might have revealed things which would have brought about better relations with the student body at testing time, as well as more valid responses from them. A pilot project could have also helped in discovering errors in judgment in the selection of data collection instruments. In addition, there would have been a better opportunity for ascertaining the best ways of handling and reducing data, as well as specifying more exactly the uses to which data could be put. A pilot project would have been a great help in defining which statistical tests and procedures were appropriate prior to the massive data collection which the staff performed. Furthermore, a pilot project would have indicated earlier the need for the services and advice of an "in-house" data expert.

Early decisions to base the data analysis on the variables of sex and attendance groupings, resulted in more work than perhaps it was worth. A curriculum based on sex-differences requires little more than a common-sense assessment of any high school population in relation to culture. Secondly, according to the RHI, the chief cause for referral to Valley High School is "truancy," which implies non-attendance. One cannot, then, expect other than deviant attendance patterns from a population such as Valley High which has been referred because of just such attendance patterns. More relevant variables such as aspiration level, motivation and interest would have been more fruitful.

TEST INSTRUMENTS

California Achievement Test (CAT)

This test was used to measure the academic achievement of the Valley High population as compared to the "normal" junior high school population. For Project purposes, the testing sessions were far too long, exceeding the motivation, interest and attention level of the students. This was so despite the existence of a reward system for test completion.

Meaning of Words Inventory (MOWI)

On the basis of student reaction, it became obvious that the Spanish translation of the MOWI was unnecessary, and in many instances detrimental. Many of the Mexican-American students "pretended" that they could not read the English at all, while both Anglo and Mexican-American students "made much" of not being able to read the Spanish.

There is some doubt that the demanding seven-choice semantic differential test was appropriate for the test population, in view of its apparently low motivation and interest level. The seven-choice scale may also have offered distinctions which were too fine for Valley High students.

Sociological Questionnaire (SOC)

Many relevant questions were included in the original SOC but were later deleted. Such questions would have given information as to the parents' income bracket, students' use of narcotics and other areas. Such questions were deemed "too controversial" for inclusion by the Project.

There were other kinds of information which might have been sought in the SOC. Such questions might have been: 1) what help, if any, the student thought he needed to be able to enter and function in the "adult" world; 2) when or how the student thought he had started on a pattern of school failure which ended in referral to Valley High; and 3) whether the student preferred attending Valley High to returning to his regular high school, and why.

Recorded Historical Information (RHI)

Much of the information gathered through the use of the RHI was outdated. This is not the fault of the instrument, however, but of the Cum records which were available for the Valley High students. Apparently, these are of little importance to the school itself and, as a consequence, they are not kept up to date. Cum records for some of the students were not available at all.

Wide Range Achievement Test (WRAT)

The WRAT was most useful, principally because the tests in it are of short span. In addition, the reading test is based on a person-to-person relationship which was found to be very useful with the students of Valley High. Scores obtained on the reading section of the WRAT were much higher than those obtained on the reading sections of the CAT, which are not administered personally. Part of this may have been due to the "coaching" effect present in the one-to-one relationship. Some difference is expectable, however, since each test is based on a slightly different concept of reading.

The reading scores on the WRAT may be positively biased since they are measured by vocal responses to printed words. To prevent such a bias, in-service training emphasized the "auditory conditioning" of each research associate and assistant. One of the trained assistants was absent on the first WRAT test day, however, and an untrained Valley High School teacher substituted.

Dr. Richard Harsh of Educational Testing Service has noted that WRAT reading scores do not measure "reading proficiency" or level of learning rate, but instead, threshold experiences acquired through reading or word exposure. He has also noted that one's reading level in learning is approximately two years below the WRAT reading score.

Physical Profile (PP)

The format of the PP could have been different in order to facilitate easier scoring. The nurses' recommendations could have been placed closer to the items requiring response. In this way, the nurses' recommendations would have then been more easily available for scoring and reporting procedures.

TESTING PROCEDURES

Taking into consideration the deviant attendance patterns as well as the constantly changing characteristics of the Valley High population, a more than adequate job of testing was accomplished. Certain changes, however, might have helped to give more reliable results. For example, the testing might have been spaced over a longer period of time, thus eliminating the atmosphere of rush and hurry. Again, if the staff had had the opportunity to question the students as to what rewards they considered worthwhile, the reward system (see Table VIII, 2 and 3, infra) might then have proved more useful in stimulating student participation in the testing.

At times during testing, the Project staff's relationships with the teachers at Valley High were "strained." This resulted in some lack of cooperation on their part and some intolerance on the staff's. The students seemed to have sensed this tension, and were willing to use it to their own "advantage." Perhaps the most important result of the faculty-Project communications gap was that the teachers spent little time explaining the reasons for the testing to their students in preparing them for testing sessions. Future projects of this kind would be advised to spend more time with cooperating faculty staff in the early planning of data collection. Continuous efforts should be made to insure complete communication and cooperation.

DATA SOURCES AND INSTRUMENTS

This Project's purpose is to produce an instructional program which will prepare continuation students for the performance requirements necessary for success in school and in the community. The task, then, was to assess the student needs individually and collectively, and to translate these into acceptable terminal behaviors. It was also part of the task to produce through the use of an instructional systems approach, a program designed to adequately develop these specific, terminal behaviors. To develop a suitable instructional program, student characteristics were first identified through basic evaluations and measurements of aptitude, interest, achievement, and psychological stability and socio-economic history. The particular means of assessment were determined by a group of consultants and staff members employed by Continuation Education System Development Project. They selected and/or developed:

1) The Semantic Differential (in MOWI)
2) The Sociological Questionnaire (SOC)
3) Instructional Preference Scale (IPS)
4) Sentence Completion Test (SCT)
5) A Physical Profile (PP)
6) California Achievement Test (CAT)
7) Wide Range Achievement Test (WRAT)
8) General Aptitude Test Battery (GATB)
9) Recorded Historical Information (RHI)

These tests are adaptable to both group and individual testing. They were also easily processed by the electronic data processing facility available to the La Puente Union High School District.

These instruments exclude direct measures of "motivation" and I.Q. They also exclude a psychological diagnosis. Motivation is an operational definition of an emotional drive which can be interpreted from observable performance, recorded historical performance, or emotional tone demonstrated by students' classroom performance or social behavior. "Drive level" (or motivation) can be inferred from responses to the selected test battery which the Project administered. Therefore, an indirect measure of motivation is available and reportable.

The second assessment measurement excluded is that of I.Q. Currently, I.Q. is a controversial area, often it is rejected by educators, especially when dealing with a socio-economically depressed population, as in the case of this research. An indirect measure of I.Q., however, is derivable by correlating standard scores obtained by the WRAT, and also the "G Factor" of the GATB.

Thirdly, psychological diagnosis is a clinical term which generally is of little use to curriculum planners. For the planner, it is the potential expectancies of student behavior which are most relevant to this task. Therefore, the staff chose not to provide a psychological diagnosis of Valley High School students.

Although the selected test battery provided sufficient information to meet the research objectives, a more comprehensive battery could have been employed. A team of psychologists, counselors and aides could have administered comprehensive academic and psychological test measures on an individual basis. With a test popualtion of 140, two psychologists and two counselors working only four hours a day with the students could have completed individual testing in four months. The testing initiated in February could have been completed well before June, with three months for analysis and interpretation.

Future researches of this kind would be advised to include the following instruments where possible:

1) Review of Historical and Developmental information in the "Cum" records.
2) An Intake Interview gathering current information, family status, etc.
3) A home call with the parents and students to bridge student information and introduce the Project to the community.
4) Selection of a diagnostic test battery including:
    A) Projective Techniques
        1) Draw a Person - Goodenough/Harris
        2) Draw a Family
        3) House-Tree-Person
        4) Thematic Appreception Test
        5) Rorschach Ink Blot
    B) I.Q. Measures
        1) Weschler Adult Intelligence Scale (WAIS)
        2) Weschler Intelligence Scale for Children (WISC)
    C) Vocational Aptitude - General Aptitude Test Battery (GATB)
    D) Interest
        1) Edwards Personal Preference Schedule
        2) Edwards Vocational Preference Schedule
    E) Scholastic - Wide Range Achievement Test (WRAT)
    F) Diagnostics for specific learning disabilities

1) Bender-Visual Motor Gestalt

2) Illinois Test of Psycholinguistic Ability (ITPA)

These instruments are psychological measurements necessary for identifying specific learning and personality problems. They are essential if one wiwhes to identify those students who may require appropriate referral practices, but who cannot be discovered by the regular screening battery employed by this staff.

CONCLUDING REMARKS

There are some dangers of which one should be aware in doing research of this kind. An implicit comparison between the test group and the so-called normal students is often built into such work. Sometimes the program designer falls into the trap of asserting "normal" to be desirable, as though it were the ideal. Relative to continuation students, this can be dangerous since the "normal" school system is in some ways as much to blame for the continuation student's plight as he himself is.

Secondly, the term "normal" is so vague as to be misleading. Highly competent researchers in the field of psychology, for instance, find it nearly impossible to define normal needs, expectations, motivations, etc. Yet, as the term enters into comparisons of continuation students with others, it generally asserts that continuation students are deviant. All of this is unnecessary since by definition continuation students (normal, deviant or not) have their own educational needs. The system designer should focus clearly on these needs, and develop a program to meet them in the most effective, efficient way.

Two other terms can easily mislead the researcher. One must be cautious of equating student preferences with student behaviors. Program designers sometimes naively suppose that students behave as they prefer, or conversely, that they prefer to behave as they do. The designer than constructs a program attempting to achieve consistency between preference and behavior within socially (or institutionally) defined limits of acceptability. The fact is that continuation students (as well as most people, according to psychologists) do not always act as they prefer, nor do they necessarily prefer to act as they do. Their actions are often impulsive and inappropriate to environmental circumstances. The system designer, then, is well advised to concentrate on behavioral needs for performance success, and not to be misled by "preferences" in so far as these might be based on impulse rather than on reason.

FINDINGS

The task of identifying student characteristics which must be observed in the design of an instructional program was assigned in January. In order to accomplish this, the staff had to identify the most appropriate sources for these data, and to select the best means for collecting and measuring them. In some cases, established techniques and standardized measurements were adopted to Project purposes. In other cases, the staff had to create its own instruments.

These findings basically describe the unique and typical characteristics of the students at Valley High School. A major objective was to discover significant differences within the population which could affect the modes of instructional stimulus that the system can employ. The data here is organized as shown in the following outline:

I. POPULATION CHARACTERISTICS
    A. Quantity Descriptors
    B. Socio-Economic Descriptors
    C. Physical Descriptors

II. BEHAVIOR PROBABILITY
    A. Evaluation and Attitudes of the Students
        1. Sociological Questionnaire (SOC)
        2. Meaning of Words Inventory (MOWI)
        3. MOWI and SOC: Aspirations

4. MOWI: Teachers

5. Instructional Preference Scale (IPS)

B. Evaluation of the Students by "Others"

1. Recorded Historical Information (RHI)

2. Teacher Evaluation Survey (TES)

III. PRESENT ACADEMIC PERFORMANCE CAPABILITIES

A. Wide Range Achievement Test (WRAT)

1. Standard Scores and Grade Placement: Percentiles for Total Valley High School Sample

2. Teacher Evaluation Compared with WRAT Scores

3. Correlational Study: WRAT

B. California Achievement Test (CAT)

1. Mean Raw Scores and Grade Placements: Total Population of Valley High School

2. Analysis: Sex, Ethnic, Attendance Groupings

3. The CAT as a Diagnostic Tool

C. General Aptitude Test Battery (GATB)

1. Aptitudes Measured by GATB

2. Who is Referred for the GATB?

3. Score Distribution of Valley High School Population as Compared with the Normal Population

4. Distribution of GATB Mean Standard Scores by Sex, Attendance, Ethnic Groupings

5. GATB Correlations

6. GATB Measures as Predictors of College Success

7. Occupational Aptitude Patterns

I. POPULATION CHARACTERISTICS

A general description of the Valley High School student body is a prerequisite to any identification of characteristics, or any assessment of instructional needs. The following descriptive data on population characteristics are divided into three sections.

The first section, quantity descriptors, includes the following items: the total population of Valley High as of the beginning of testing; the male/female student ratio; attendance patterns; attrition rate; and, the rate of new enrollments.

The second section, socio-economic descriptors, includes these topics: socio-economic family status; ethnic group membership; data on family structure; the amount of special education that students have received; stated discipline problems; and, reasons for referral to Valley High School.

Physical descriptors, the third section, reports the following data: general health information (historical and familial); individual health history; present general health status; assessment of lateral preference; and, the examining nurses' recommendations.

There is a wide variety of individual differences in the population of Valley High School; an assumption of homogeneity is, therefore, an artificial one. Certain characteristics of the population, however, necessitate such an assumption, and dictate the type of research design utilized by the Project in assessing attitudes, abilities, and behavioral and demographic variables relevant to the continuation student at Valley High School.

The pattern of student enrollment at Valley High School is a "dynamic" one, as shown in the example below for the period of September 16, 1967, to April 30, 1968.

Total Enrollment	483
Active Enrollment	297
Dropped by Valley High	186
Dropped, but re-enrolled	33

Such an "incoming-outgoing" pattern presents a problem in data collection, and prohibits obtaining complete test batteries for each individual student. As a consequence, the Project employed a "block" design to expedite data collection. Such a design defines the population of Valley High School as an homogeneous one, and, thereby makes possible accurate measures without the constraints of obtaining complete test batteries. Within the "block" design, the population characteristics are measured in terms of the following variables: total population, sex, ethnic group membership and attendance.

Collection of demographic data which is concerned with size, distribution and vital statistics of the Valley High

School population required two steps. The first involved a quantitative evaluation of the student body at Valley High School. This evaluation included:

1. The total population of Valley High School, as of the beginning of testing. (March 18, 1968.)
2. The male/female ratio of the student body.
3. The mean age of the student body.
4. The attendance patterns of the male and female population.
5. The ethnic distribution ratio.
6. The referring high school.

The second step was to gather data relevant to a socio-economic assessment of the student population. This included:

1. The socio-economic status of the student's family.
2. Familial structure.
3. Marriage patterns of parents.
4. Mobility of parents.
5. Educational level of parents.
6. Number of siblings of students, etc.

A. Quantity Descriptors

As of the beginning of testing, the total attending population of Valley High School was 276. Of this total, 254 students served as testing subjects. Because of the attendance pattern at Valley High School, only 12% of the sample population completed a full test battery. Eighteen percent (18%) completed all but the WRAT, 20% completed all but the CAT, and over 27% completed all but the GATB. The following charts show the numerical distribution by sex and the mean ages of the test population.

Numerical Distribution (by sex)
Valley High School

Males	202
Females	74
Male/female ratio	3:1

The majority of students at Valley High School are sixteen years or older.

Mean Ages of the Total Population and Percentages:

(SOC, N = 176)

Age	Percentage of Total Population
14 years	4.0
15 years	20.5
16 years	42.6
17 years (or older)	32.4

As reported, the attendance pattern at Valley High School is a non-stable one. Attendance varies from day to day, and it increases and decreases from month to month. In order to obtain a sufficient amount of data, the total population at Valley High School was divided into three separate groups.

Those students who attended more than 50% of the time were designated Group A; those who attended less than 50%, Group B; and those who had been referred to Valley High but who did not attend, as Group C. Group A was composed of 109 students; Group B, 119 students; Group C, 48 students. Within each group, the male/female ratio of the total population was maintained in data collection.

In the total test population, an ethnic distribution is shown by the data as follows:

Ethnic Group	Percentage of Total Population (N=276)
Anglo	69.2
Mexican-American	30.6
Other (Negro, Oriental)	1.8

This ethnic distribution is further broken down as follows:

Males	Percentage of Total Population
Anglo	68.3
Mexican-American	30.2
Other	1.5

Females	Percentage of Total Population
Anglo	71.6
Mexican-American	27.0
Other	1.4

The ratio of Anglo to Mexican-American students is roughly 3:1. As can be seen, the "Other" group is stastically insignificant to the population at Valley High School.

B. Socio-Economic Descriptors

The socio-economic status of the students' families was derived from two sources: the RHI and the SOC. (See Tables XIV, 1 and XV, 1, infra.)

Data derived from the RHI indicate that the father of the student, or the male with whom the student lives, is generally employed at the following occupational levels:

Level of Employment	Percentage (N = 138)
Unskilled, semi-skilled, and skilled	82
White collar workers	10.2
Professional workers	7.6

Mothers, or the females with whom the student lives, were employed at the following levels:

Level of Employment	Percentage (N = 138)
Housewives	73
Semi-skilled or skilled	20.7
Professional workers	6.3

In most instances, the most recent data were obtained from the SOC which showed the following:

Males Level of Employment	Percentage
Laborers	10.2
Trade crafts (mechanic, electrician, etc.)	27.3
Professional workers	11.9
Unemployed	4.0
None of listed categories	40.9

On the SOC, however, no questions were asked relevant to the occupation of the mother or female with whom the student lives.

Data derived from the Physical Profile (PP)(see Table XVI, 1, infra) indicate that the mean age of the parents of students now attending Valley High School is 42.1 years, and that the mean age of the siblings is 11.7 years. (See Figure 1.) Data from the SOC indicate that 8.4% of the student population have two siblings, (see Figure 2a, 2b) 16.8% have three siblings, and 67.1% have four or more siblings.

Thirty-four and seven-tenths percent (34.7%) of the Valley High School students are the middle-born child; 23.7%, the first born, and 22.3%, the last born. (See Figure 3.)

Analysis of the RHI and the SOC in terms of ethnic groupings indicates that no Anglo student has ten or more siblings as compared with 7.1% of the Mexican-American students who have more than ten siblings. Approximately 75% of the Anglo and the Mexican-American students both have between two and six siblings in the family.

Most Valley High School students live in "matricentric" families, that is, mother and father are married and both living in the home (r.= .856). The majority of Valley High School students, regardless of ethnic group membership or sex, live with both father and mother. Findings indicate that a greater proportion of the Mexican-American students (75.5%) live with both parents as compared with the Anglo students (53.1%). (See Figure 4.) Data from the RHI indicate that: 82.1% of the students live with their natural mother and father; 14.9% live with their mother or father only; and, only 2.9% live with other relatives or guardians.

Data from the Physical Profile and the SOC, which reflect the most recent and accurate information, indicate that only 58.8% to 66.8% of the students live with their natural parents; the remainder live with step-parents, in foster homes, or with friends or older siblings. (See Figure 5.)

Figure 1 MEAN AGE DISTRIBUTION OF FAMILIES—PHYSICAL PROFILE

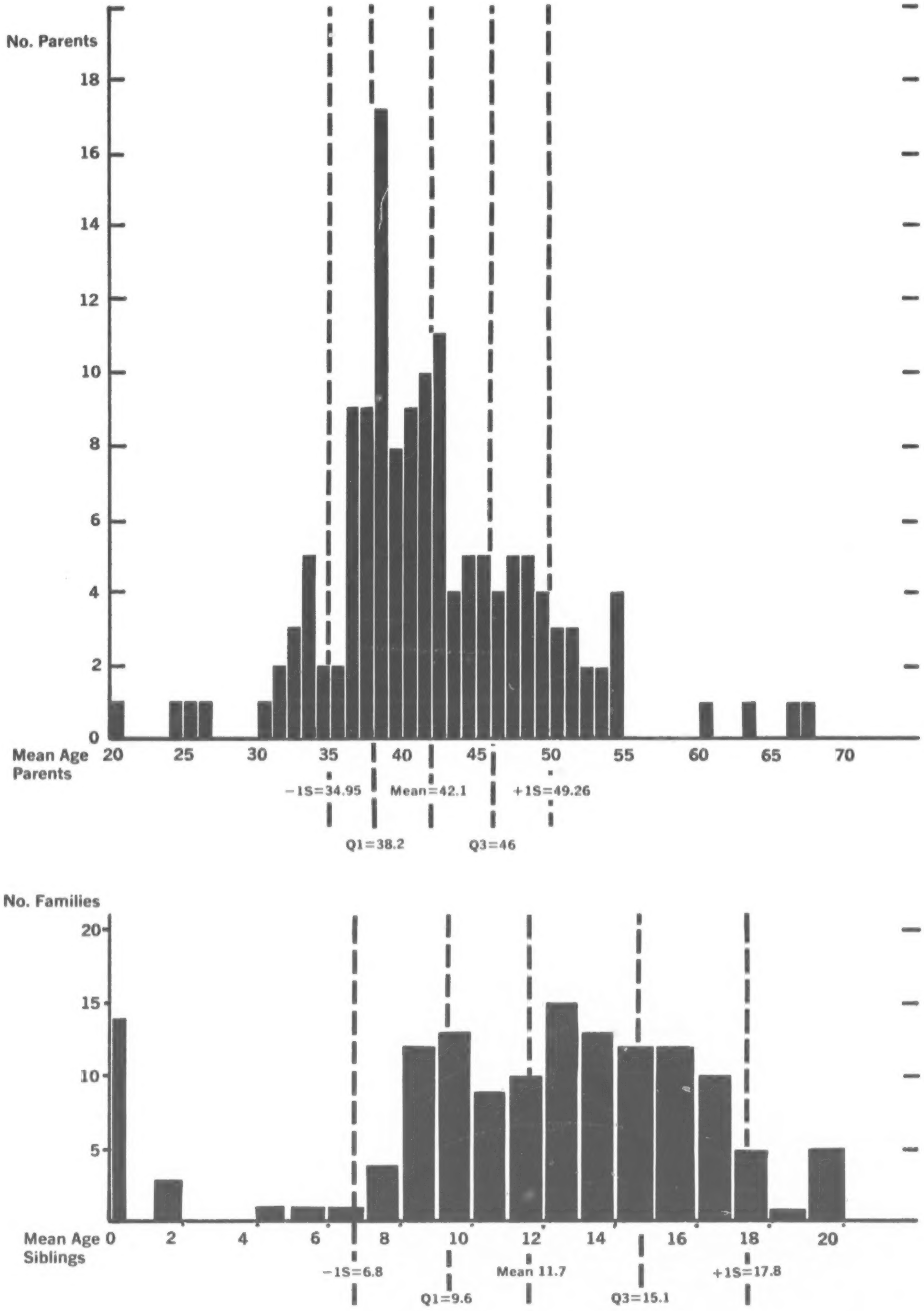
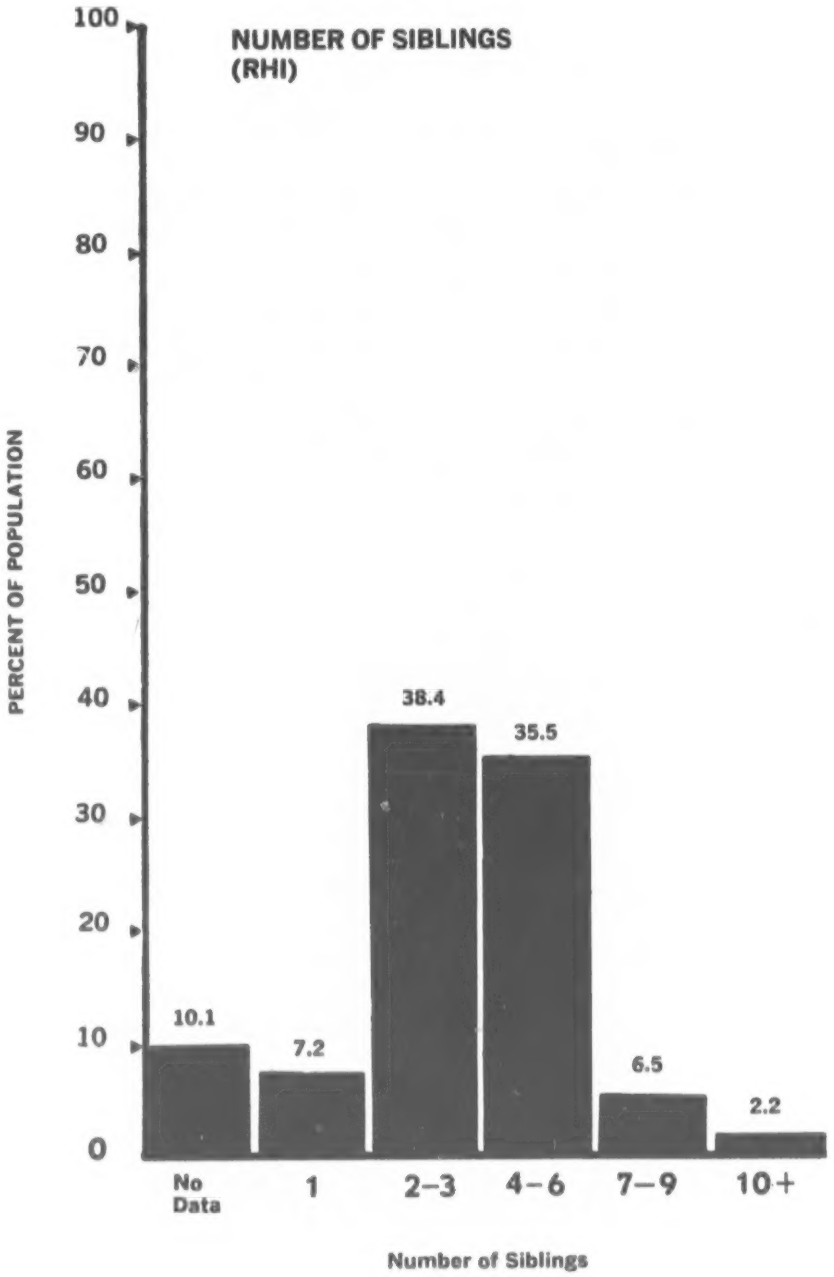


Figure 2a

TOTAL POPULATION — NUMBER OF SIBLINGS



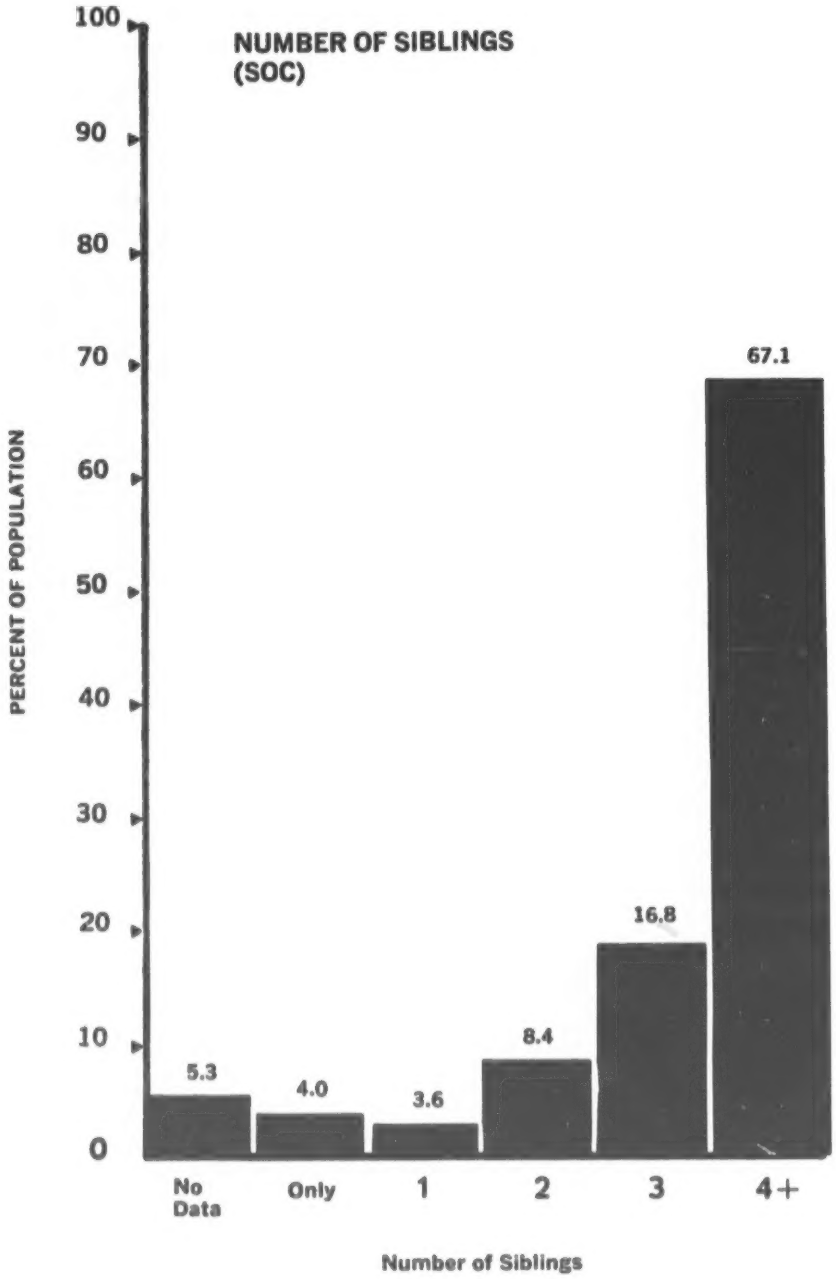
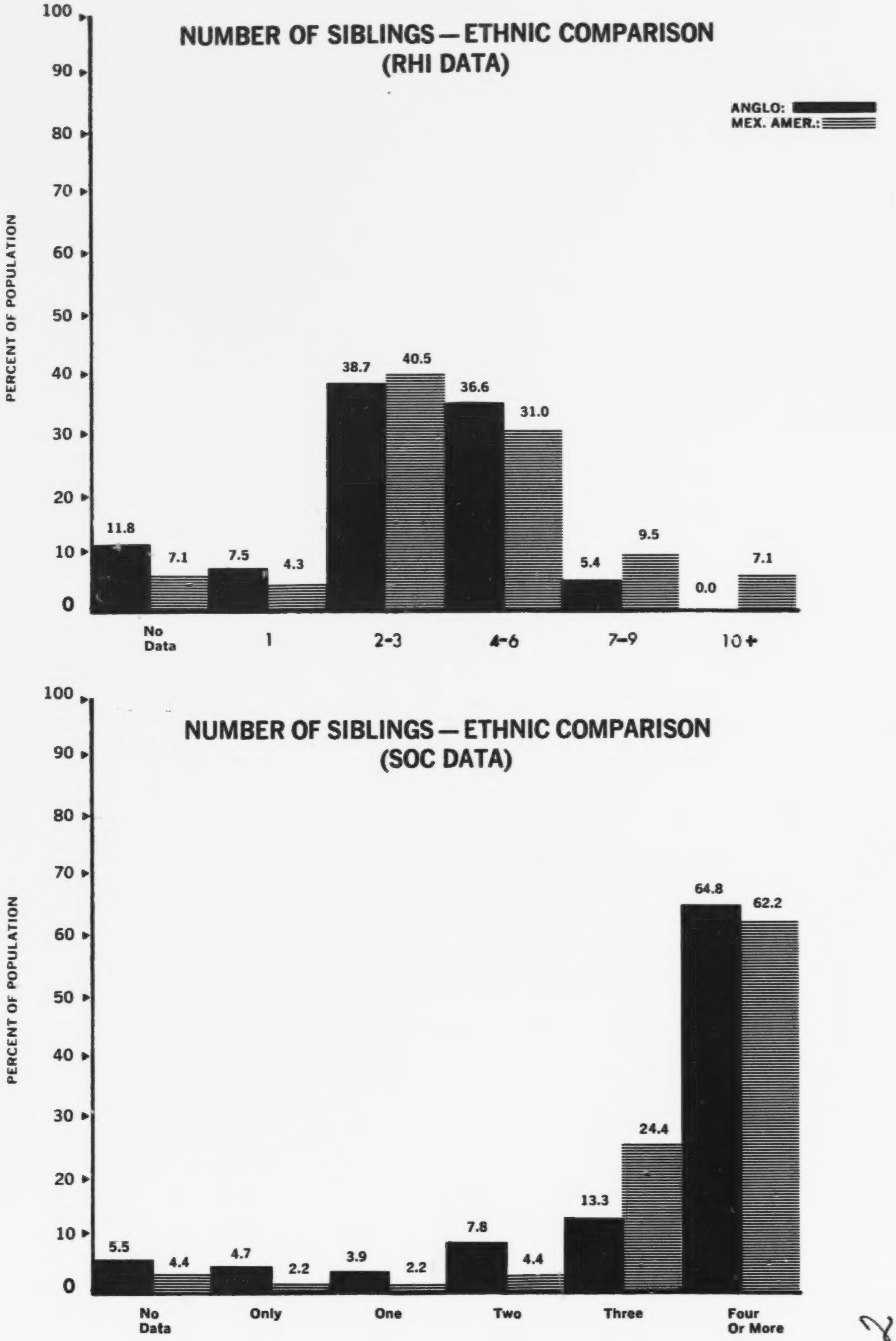


Figure 2b



NUMBER OF SIBLINGS — ETHNIC COMPARISON (RHI DATA)
ANGLO: ■
MEX. AMER.: ▤
PERCENT OF POPULATION
100
90
80
70
60
50
40
30
20
10
0
11.8
7.1
7.5
4.3
38.7
40.5
36.6
31.0
5.4
9.5
0.0
7.1
No Data
1
2-3
4-6
7-9
10+
NUMBER OF SIBLINGS — ETHNIC COMPARISON (SOC DATA)
PERCENT OF POPULATION
100
90
80
70
60
50
40
30
20
10
0
5.5
4.4
4.7
2.2
3.9
2.2
7.8
4.4
13.3
24.4
64.8
62.2
No Data
Only
One
Two
Three
Four Or More

2

Figure 3 BIRTH ORDER OF V.H.S. STUDENTS

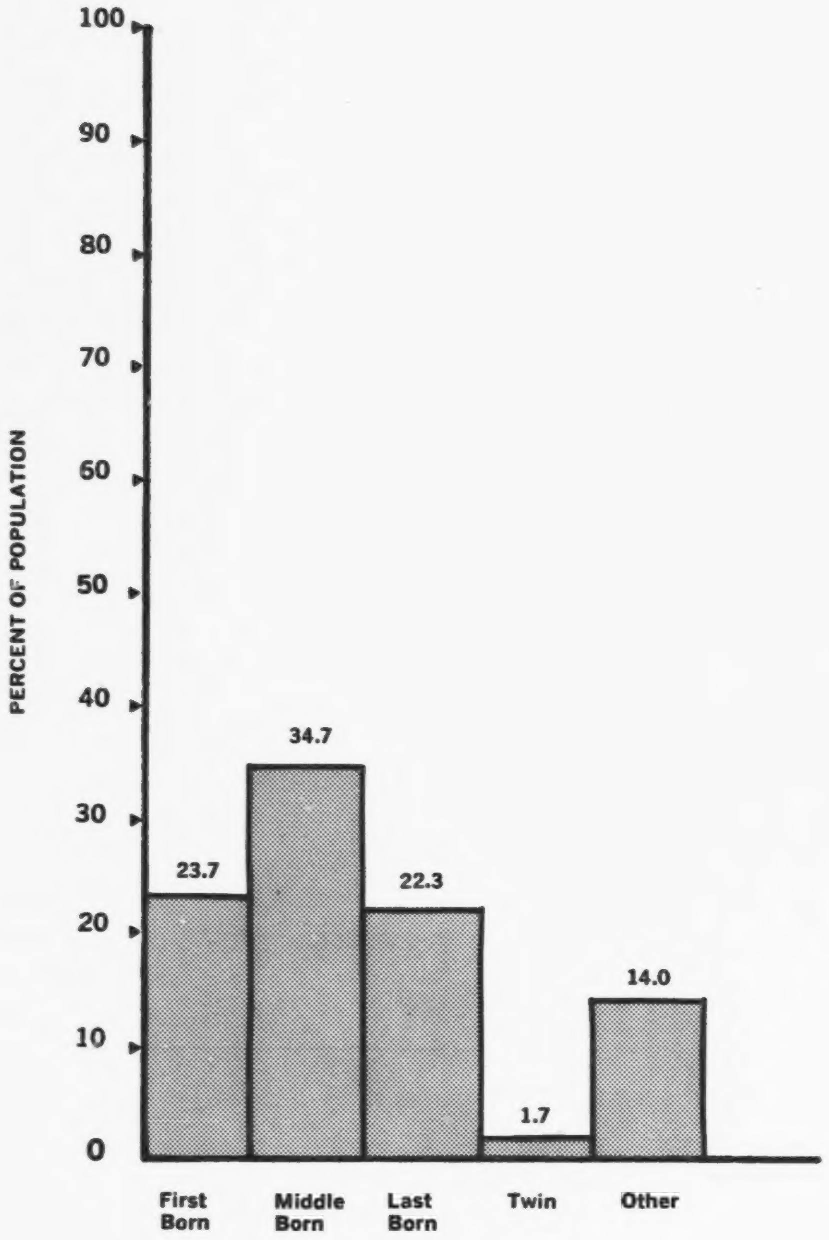


Figure 4

FAMILY STRUCTURE FROM PHYSICAL PROFILE

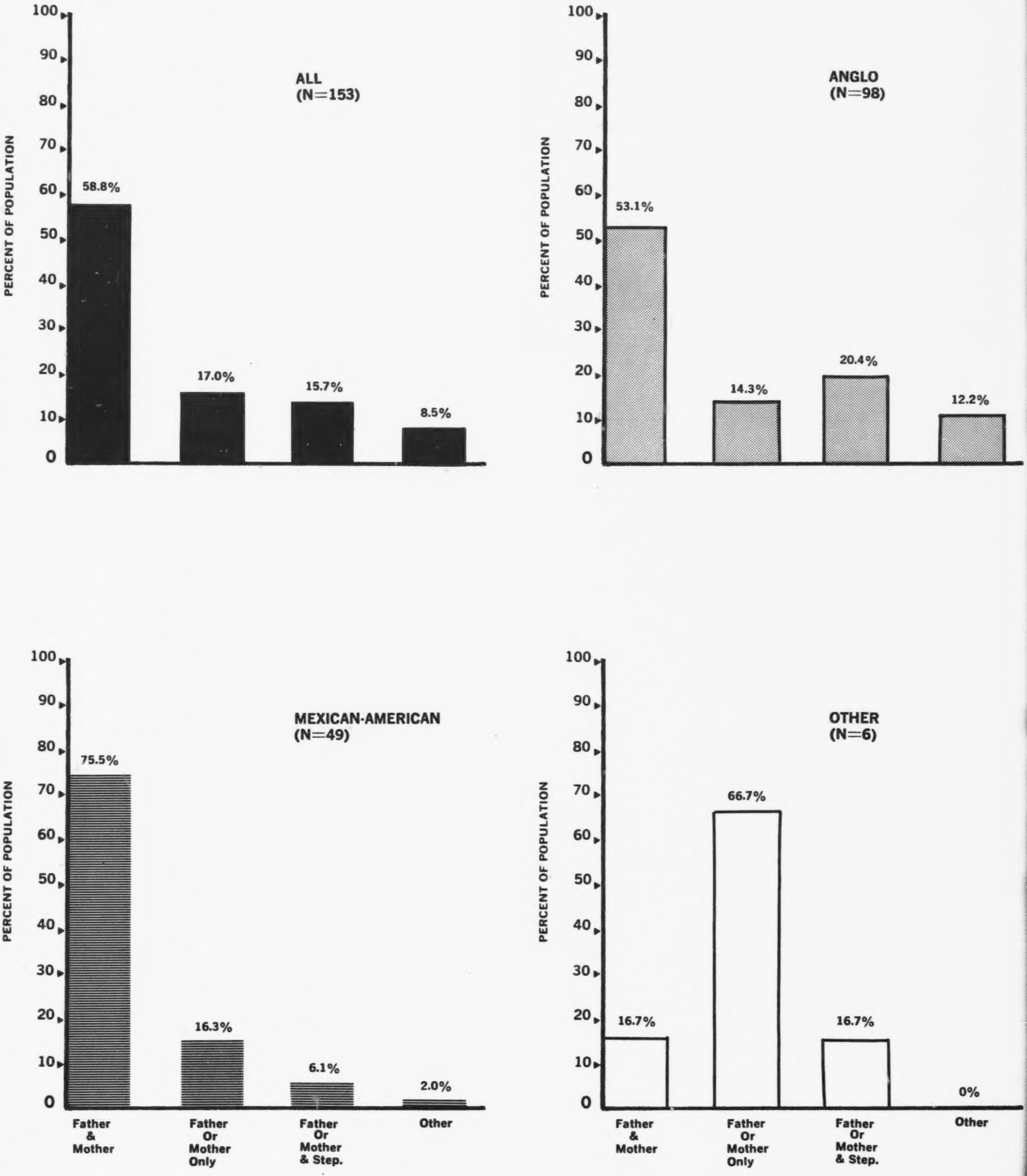
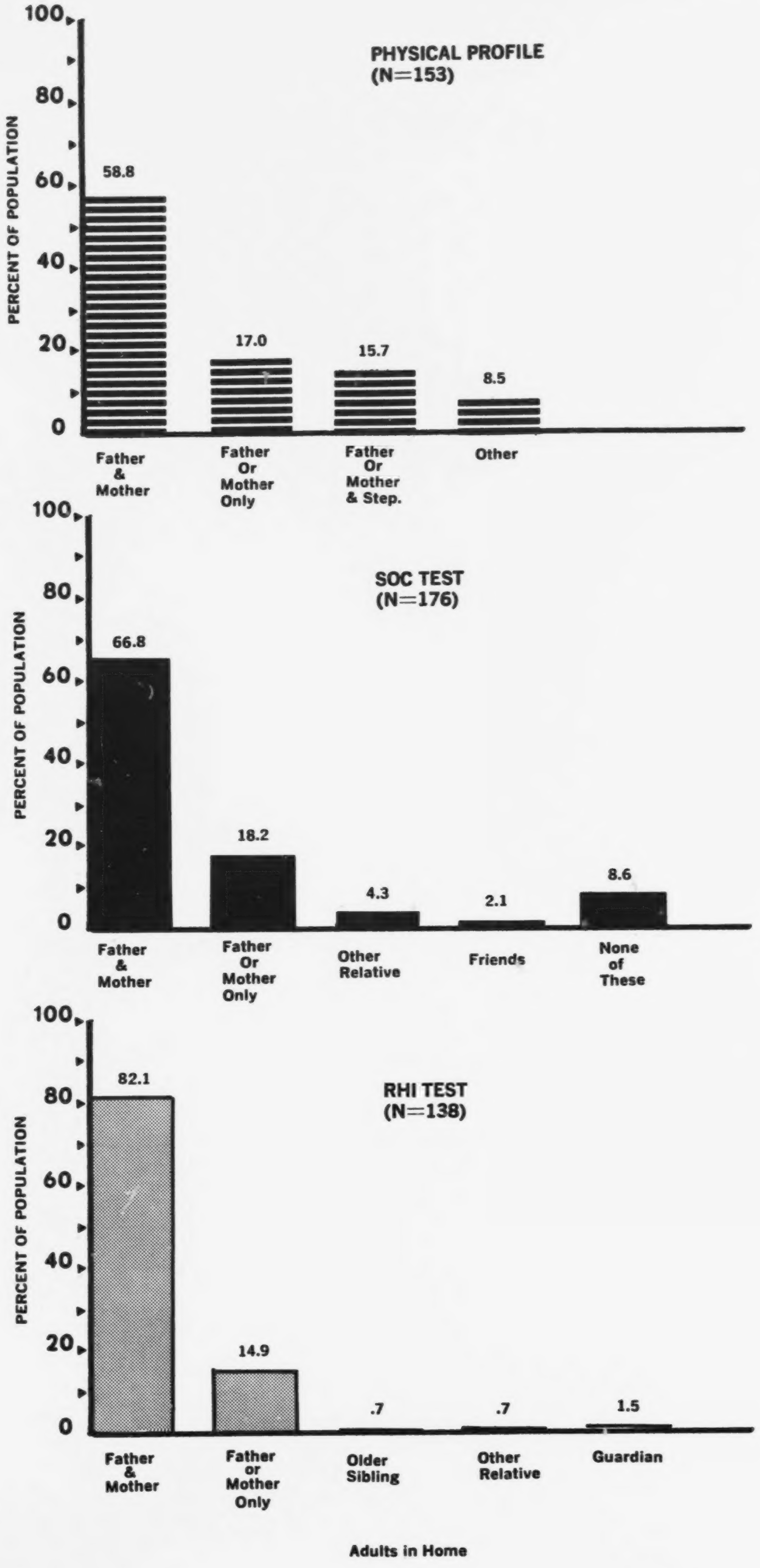


Figure 5 P.P., SOC, RHI COMPARISON — ADULTS STUDENTS LIVE WITH



Of the parents of students at Valley High School, 79.1% are presently married; 4.7% are divorced or separated and not remarried; 5.4% are widowed and not remarried; and 10.9% are widowed and remarried. (See Figure 6.)

English is the predominant language spoken by Valley High School students and their families in their homes. (See Figure 7.) Combined data indicate the following:

Language Spoken at Home

(RHI) N = 138

Language	Percentage of Homes
English	69.5
English/Spanish	19.1
English/Other	2.2
Spanish	.4
Other	3.2

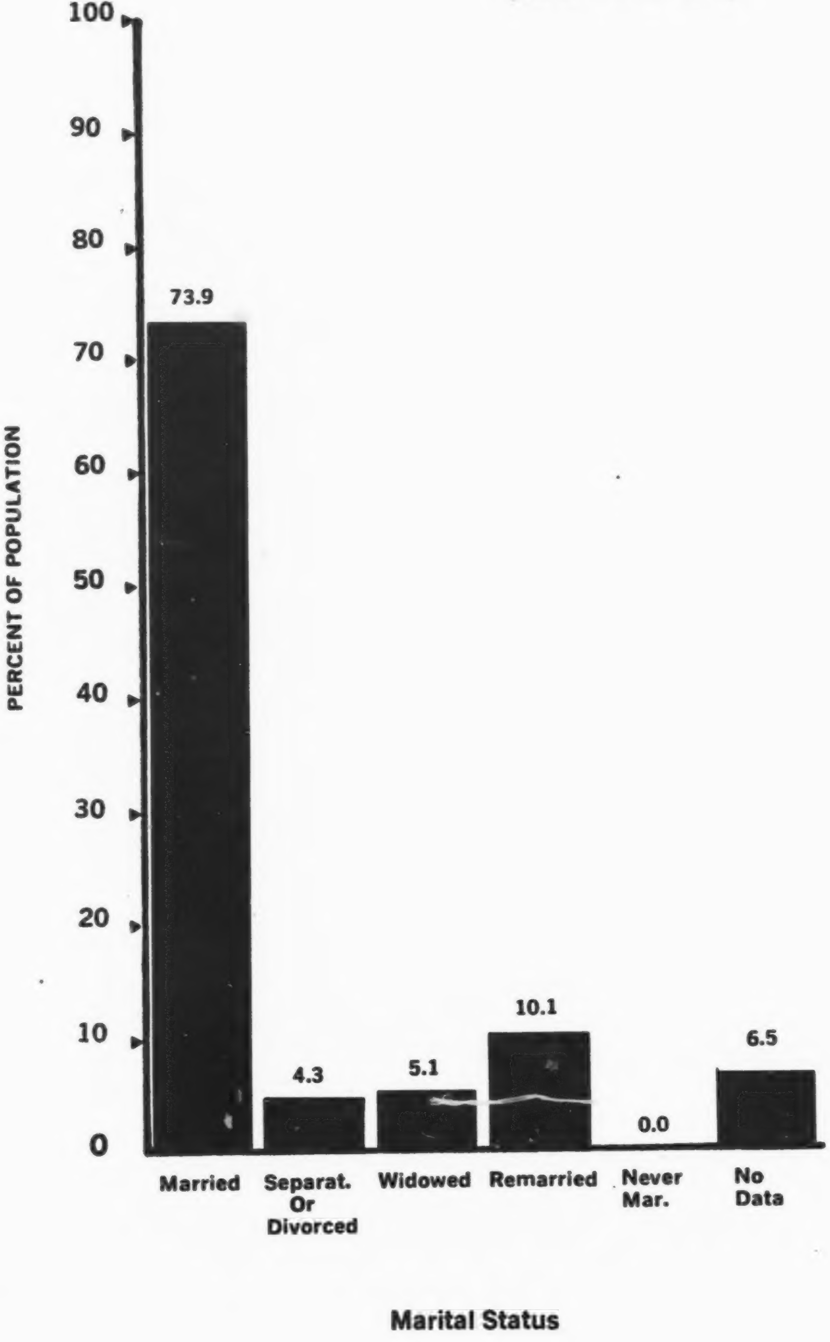
Income for family needs is provided as shown in Figure 8.

(SOC) N = 176

Source	Percentage of Population
Father as sole source	54.0
Mother	14.2
More than one member of family	15.9
Outside support (i.e., State, County)	7.4
None of these	4.5
Not indicated	4.0

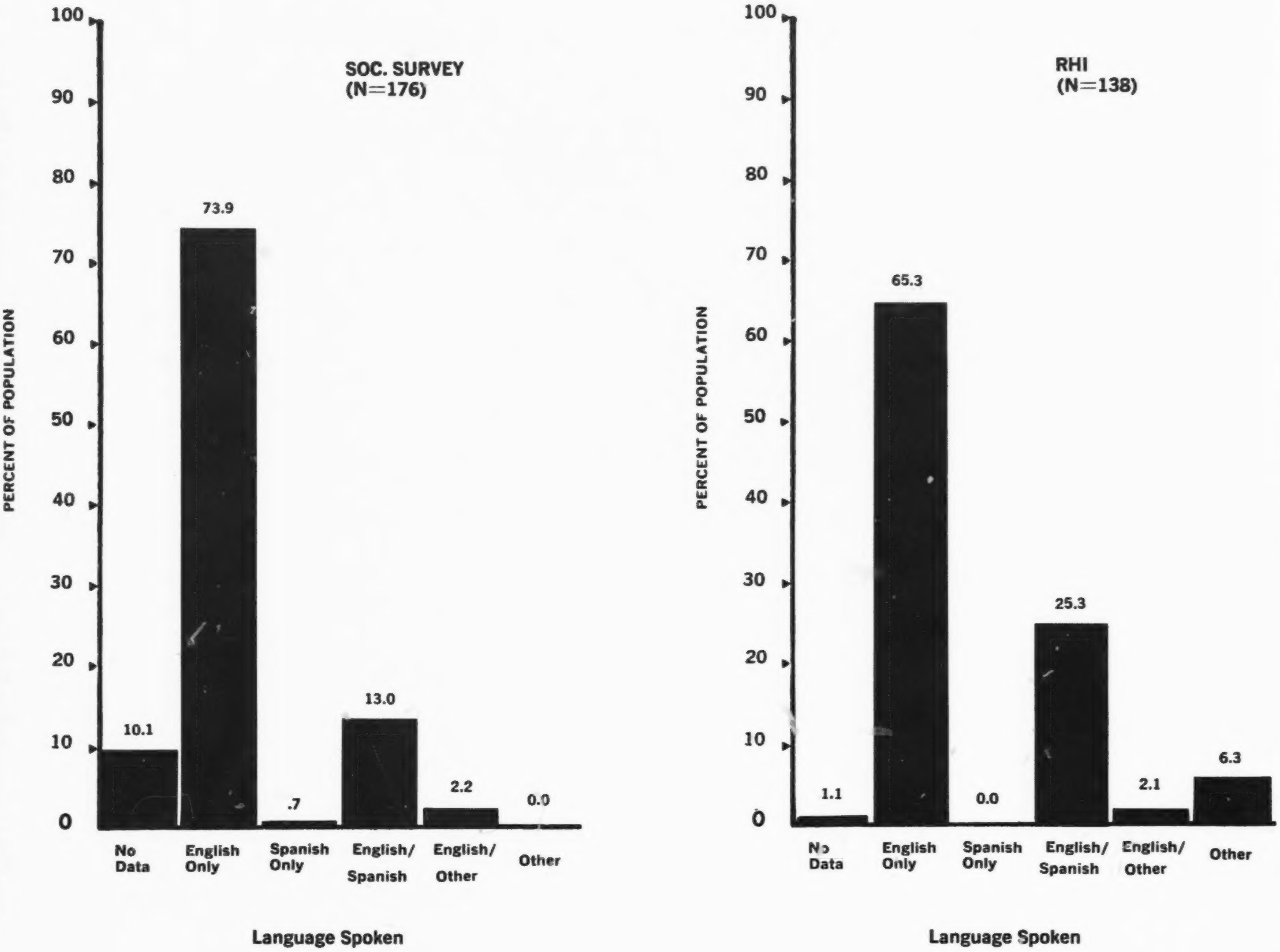
Figure 6

MARITAL STATUS
OF ADULTS IN
THE HOME
(RHI–N=138)



Marital Status

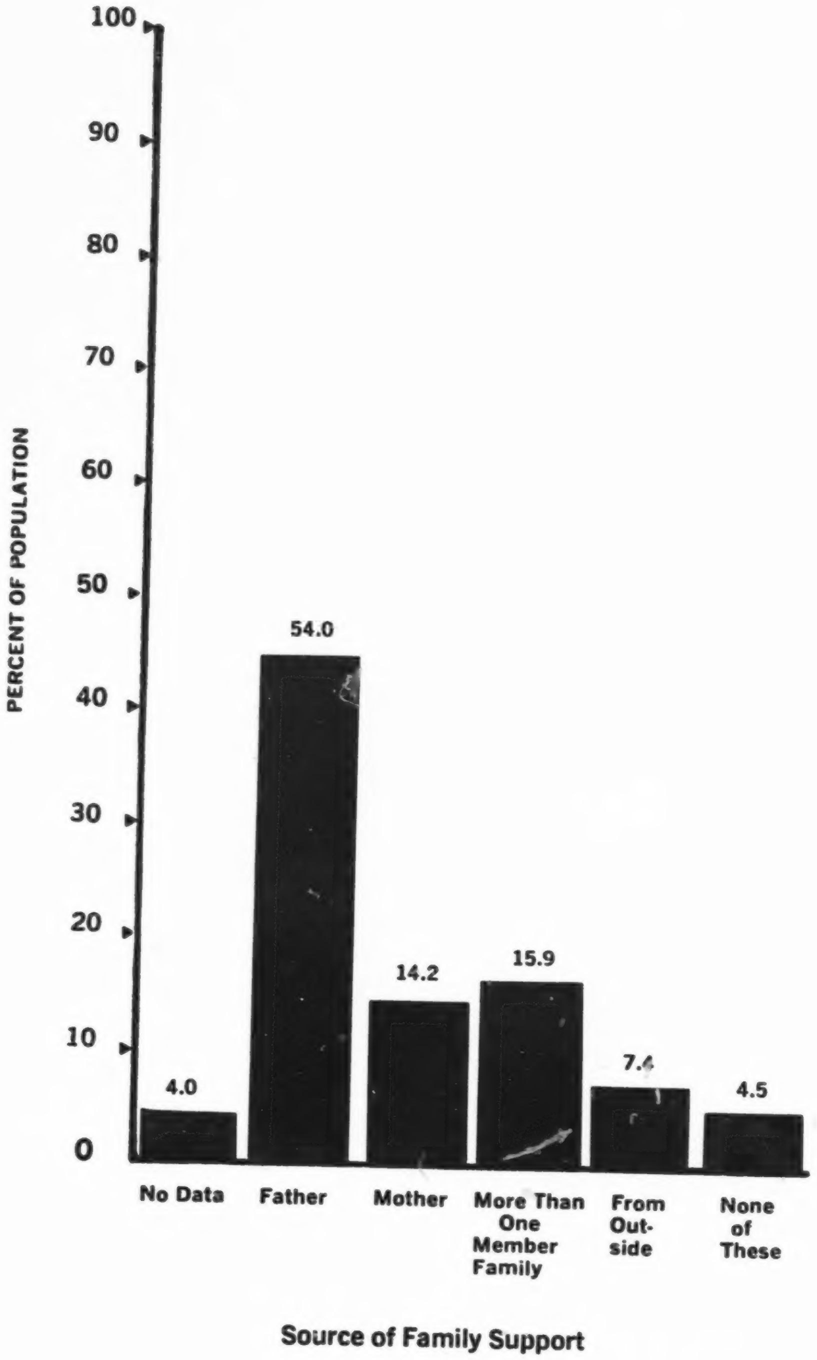
Figure 7 LANGUAGES SPOKEN IN THE HOME



Mean % Language RHI and Soc Data	% pop.
English	69.5
English/ Spanish	19.1
Spanish	.4
English/ Other	2.2
Other	3.2

Figure 8

SOURCE OF FAMILY INCOME
(SOC–N=176)



Only a limited amount of data relative to the educational level of the parents of the student at Valley High School was available. Such data were obtained from the RHI, and indicated that 46.9% of the fathers and 57.9% of the mothers had had some high school education. Four and one-half percent (4.5%) of the males and 3.9% of the females had been to a trade or technical school; 10.6% of the males and 5.6¢ of the females had gone to some college, and 7.3% of the males and less than 1% of the females had gone to a four-year college. Thirty and seven-tenths percent (30.7%) of the fathers and 29.8% of the mothers had completed none of the above. Figures 9 and 10 identify the education experience of the total parent population. The following charts report these data by the sex and ethnic subgroup variables.

(RHI) N = 138

Parents' Educational Level Completed	Percentage Male	Percentage Female
Elementary School only	6.5	5.8
Jr. High School	10.9	10.1
High School	23.9	32.6
Jr. College	2.9	2.9
Four-year College	3.2	0.0
No data	54.5	48.6

Figure 9 EDUCATIONAL LEVEL OF PARENTS

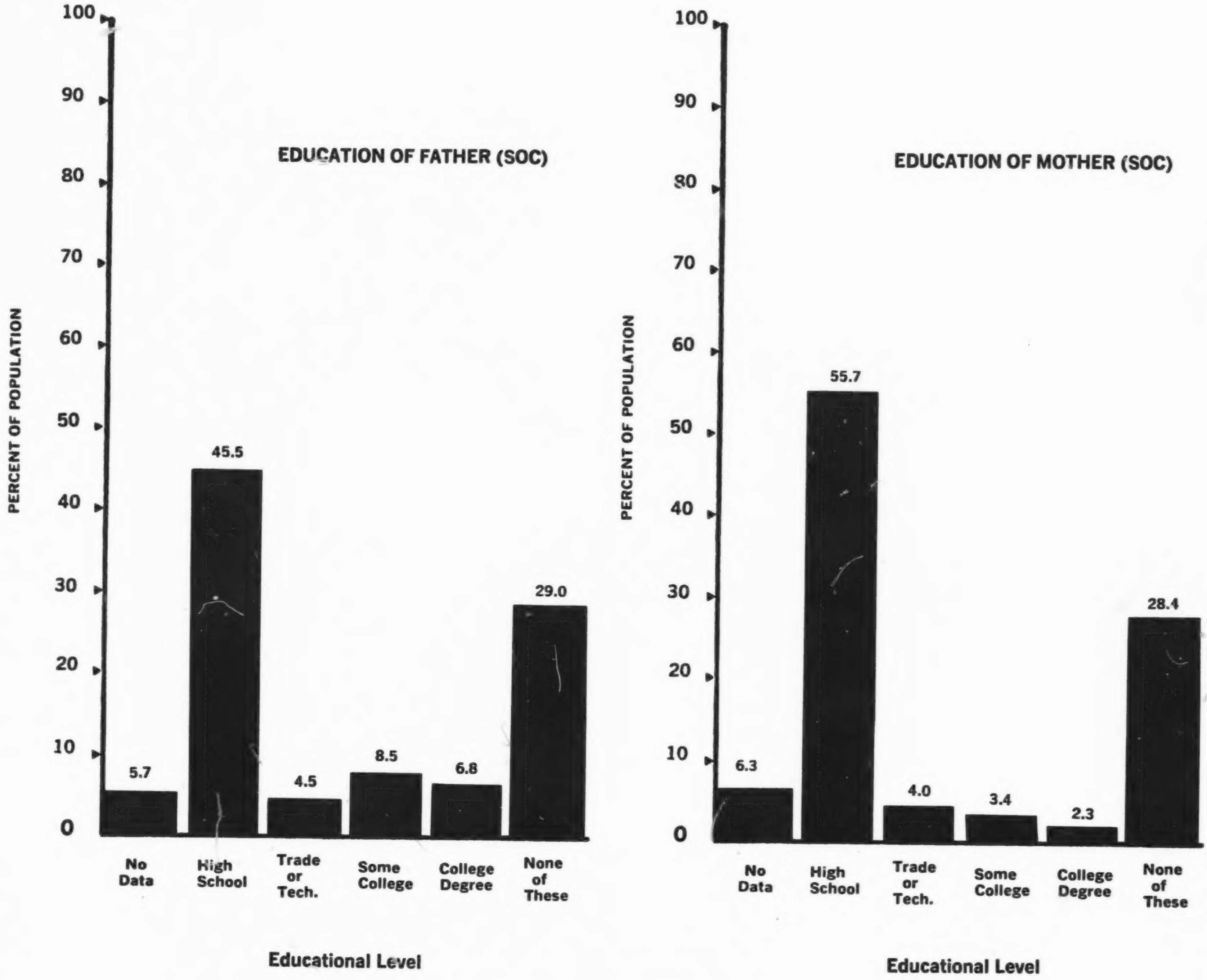
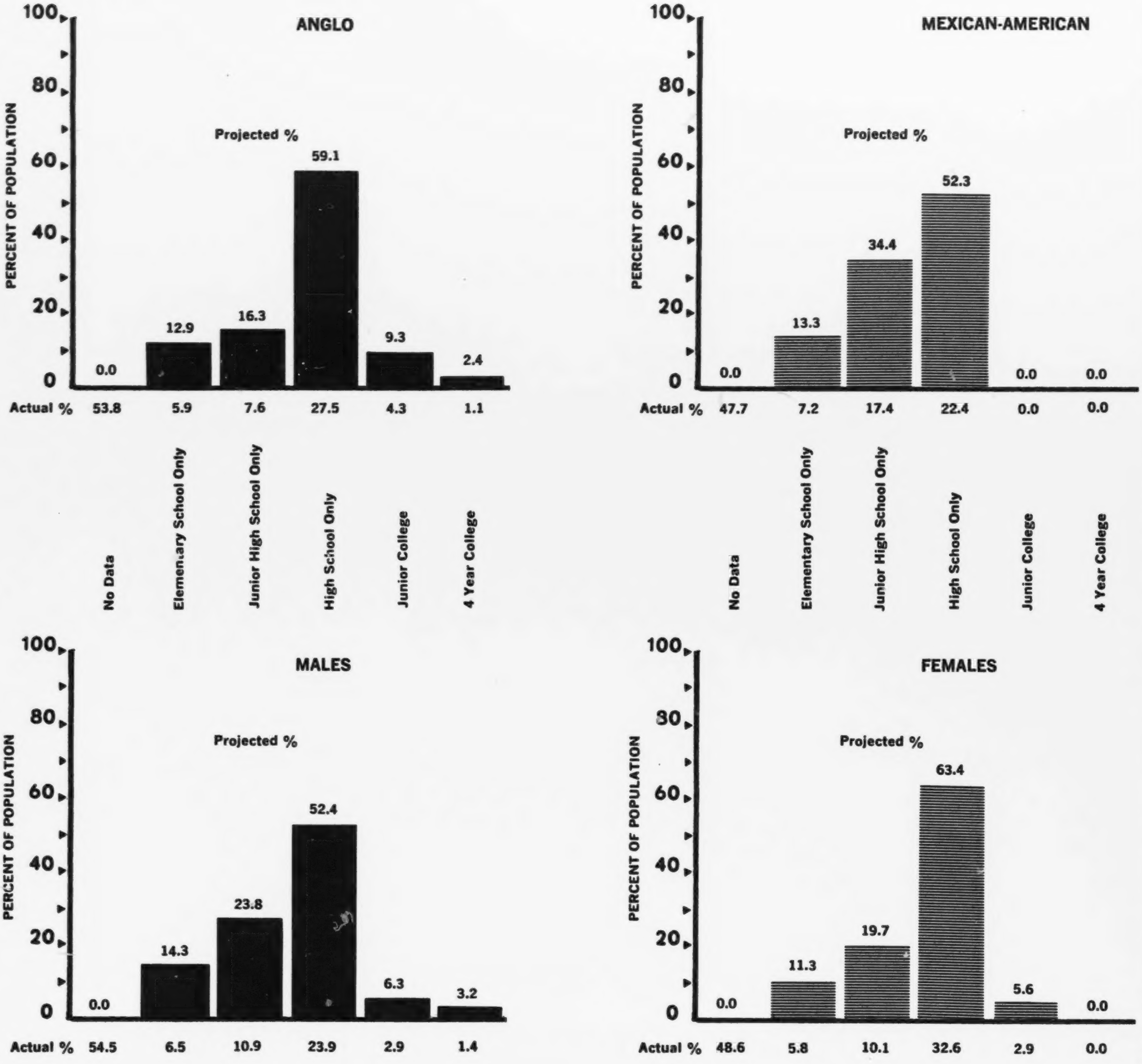


Figure 10

EDUCATIONAL LEVEL OF PARENTS—RHI



Ethnic Distribution:

(RHI) N = 138

Parents' Educational Level Completed	Percentage Anglo	Percentage Mexican-American
Elementary School only	5.9	7.2
Jr. High School only	7.6	17.9
High School only	27.5	27.4
Jr. College	4.3	0.0
Four-year College	1.1	0.0

RHI data (see Figure 11a) indicates that the majority of Valley High School students (60.9%) were born in California or the Western portion of the United States. Sixteen and seven-tenths percent (16.7%) were born in the Midwest, 11.6% in the East, 5.1% in the South, and 1.4% in a foreign country.

An attempt was made to ascertain the mobility patterns of the students' parents, using as an indicator the number of schools attended by the students. (See Figure 11b.) Data from the RHI (N=138) indicate the following:

	Percentage of students who have attended:			
School Level	1 School	2 Schools	3-4 Schools	5-7 Schools
Elementary	14.5	35.5	28.3	3.6
Jr. High	60.1	20.3	5.1	0.7
High School (including VHS)	5.8	71.0	17.4	0.7

Figure 11a

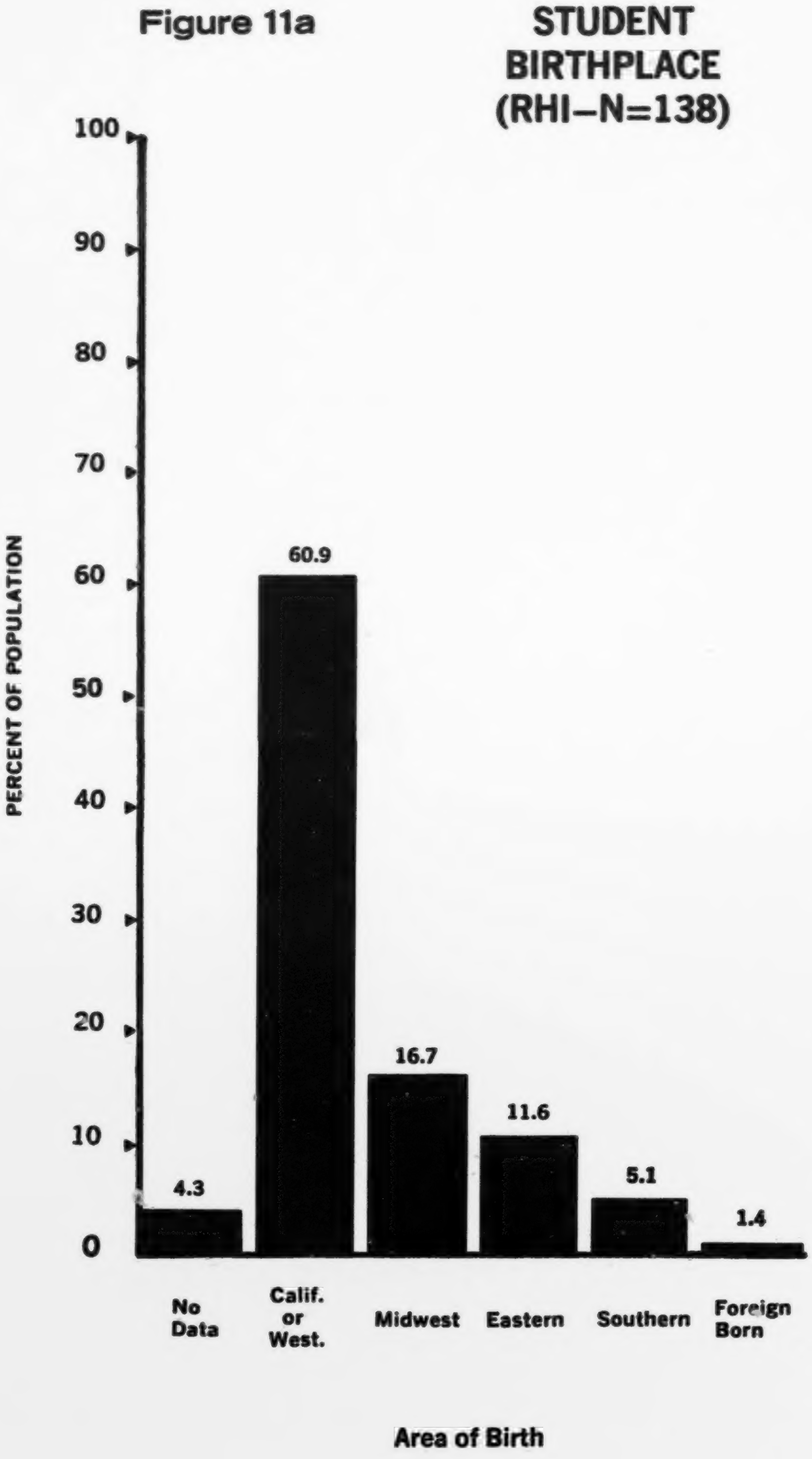
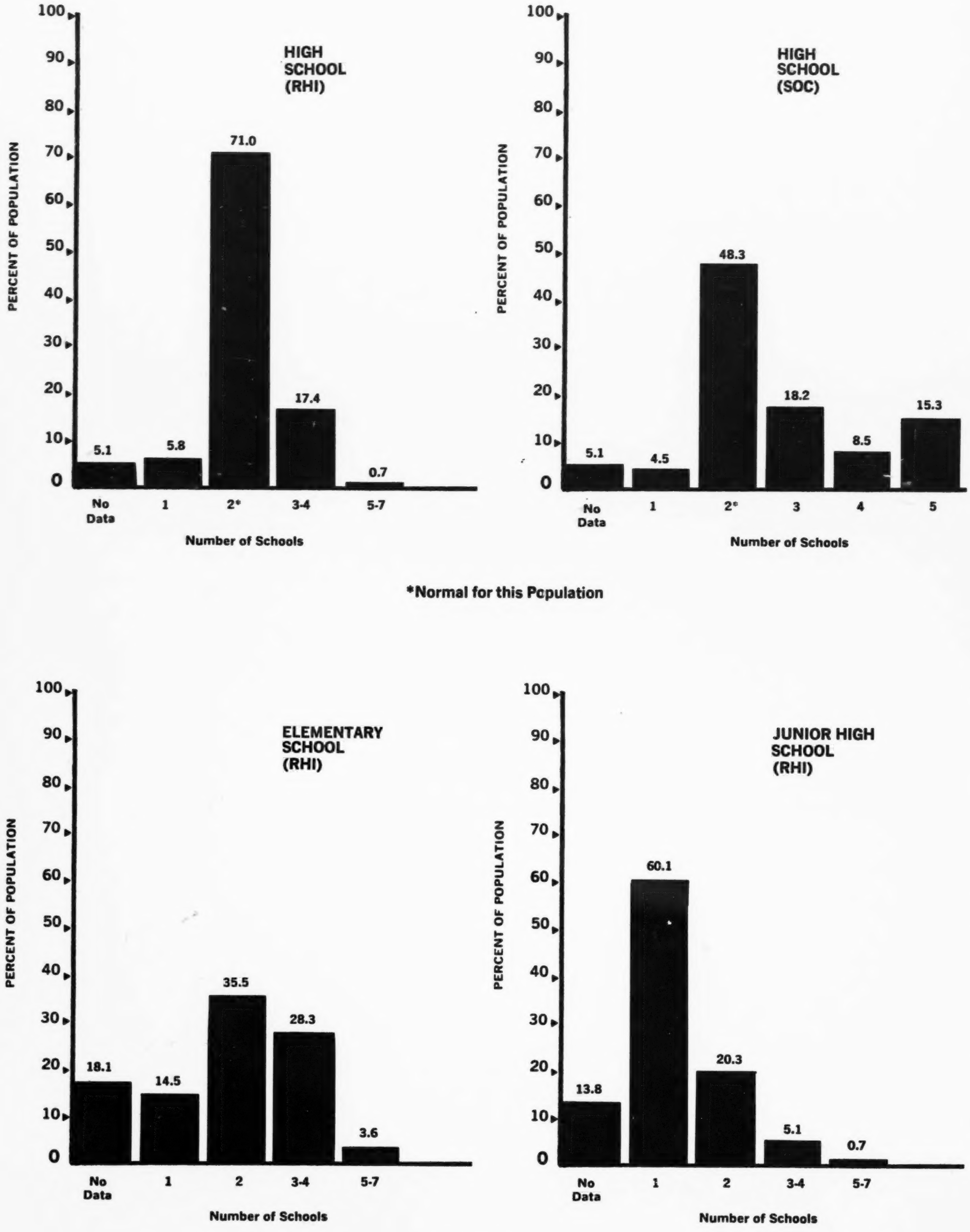

STUDENT
BIRTHPLACE
(RHI–N=138)
PERCENT OF POPULATION
100
90
80
70
60
50
40
30
20
10
0
4.3
60.9
16.7
11.6
5.1
1.4
No Data
Calif. or West.
Midwest
Eastern
Southern
Foreign Born
Area of Birth

Figure 11b

NUMBER OF SCHOOLS ATTENDED
% Total VHS Population



*Normal for this Population

On the basis of the above figures, it would seem that the parents of the students at Valley High School are essentially non-mobile, and once established in a community, they tend to remain.

C. Physical Descriptors

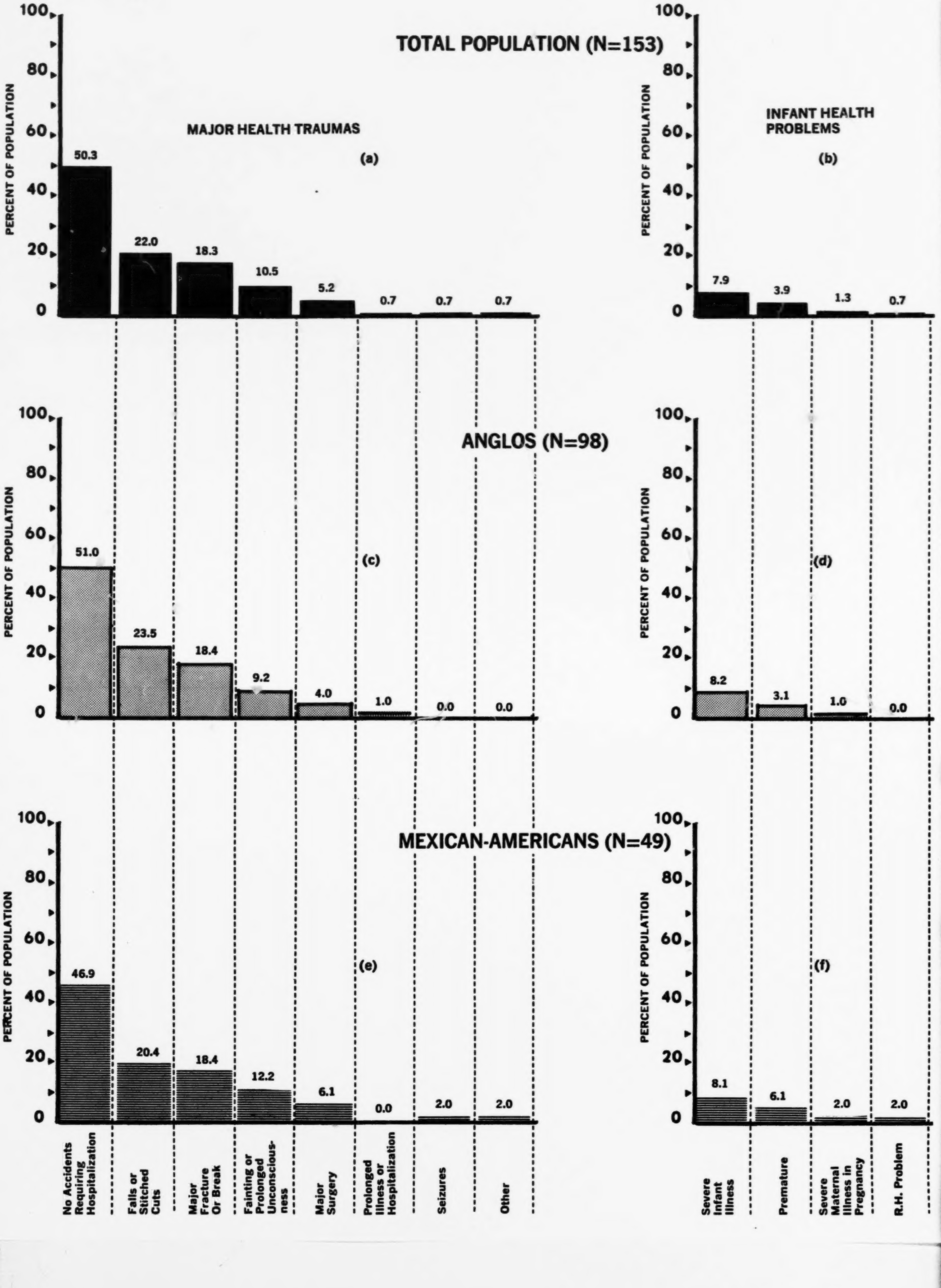
A student's ability to respond to instructional stimuli depends upon many things. Among these are the student's general physical condition. The task was to assess the physical characteristics of Valley High School students which might directly affect their educational performance. The Physical Profile was devised to identify these physical characteristics. This instrument was administered by six district nurses in April, 1968, during which time 153 students were interviewed.

The findings from the Physical Profile are reported below under the following headings: General Health Information; Individual Health History; Present Health Status; Dominance and Lateral Preference; and Nurses' Recommendations. Each nurse made recommendations at the conclusion of the interviews, writing independently in accordance with her orientation to Project objectives.

GENERAL HEALTH INFORMATION (See Figs. 12a, c, e):

The data show that half of the student population have not experienced accidents serious enough to require hospitalization. Approximately 20% of the students have suffered

Figure 12


TOTAL POPULATION (N=153)
MAJOR HEALTH TRAUMAS
(a)
INFANT HEALTH PROBLEMS
(b)
PERCENT OF POPULATION
100
80
60
40
20
0
50.3
22.0
18.3
10.5
5.2
0.7
0.7
0.7
7.9
3.9
1.3
0.7
ANGLOS (N=98)
(c)
(d)
51.0
23.5
18.4
9.2
4.0
1.0
0.0
0.0
8.2
3.1
1.0
0.0
MEXICAN-AMERICANS (N=49)
(e)
(f)
46.9
20.4
18.4
12.2
6.1
0.0
2.0
2.0
8.1
6.1
2.0
2.0
No Accidents Requiring Hospitalization
Falls or Stitched Cuts
Major Fracture Or Break
Fainting or Prolonged Unconsciousness
Major Surgery
Prolonged Illness or Hospitalization
Seizures
Other
Severe Infant Illness
Premature
Severe Maternal Illness in Pregnancy
R.H. Problem

from major fractures; slightly more have required stitches to close cuts resulting from falls; and only 11% of the students report any history of fainting or prolonged unconsciousness. Less than 6% of the students report having had major surgery.

There seems to be a low incidence of severe problems at birth. Only 8% of the students reported severe illness during infancy, and only 4% of the students were born prematurely. Pre-natal care and parental obstetric visitation data were unavailable.

INDIVIDUAL HEALTH HISTORY (See Figs. 13 - 15):

Illnesses: Of the total population, 83.7% reports no severe illnesses, and 15.3% of the students have had one severe illness. Only 2.7% of the students report more than one severe illness.

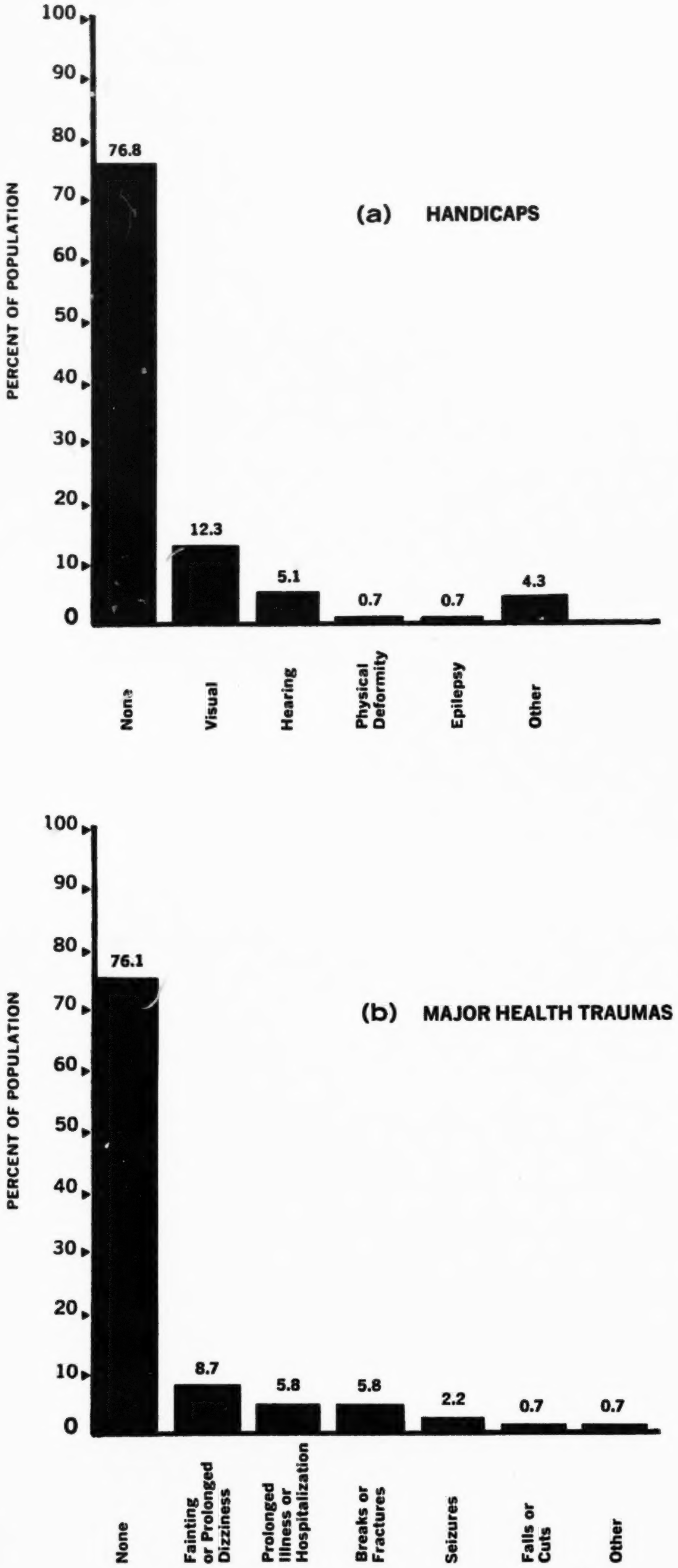
Accidents: According to Recorded Historical Information, more than three-fourths of the population have not experienced serious accidents requiring medical attention. The RHI findings are consistent with the data on major health traumas reported by the Physical Profile.

Operations: Only 5% of the students have experienced major surgery, and only 6% have been in a hospital for any prolonged period of time.

Medical Visitation Practices: More than two-thirds of the student body at Valley High School report visiting doctors only when necessary. Approximately one-sixth of the students

Figure 13

TOTAL POPULATION (N=138)



Data From Recorded Historical Information

Figure 14

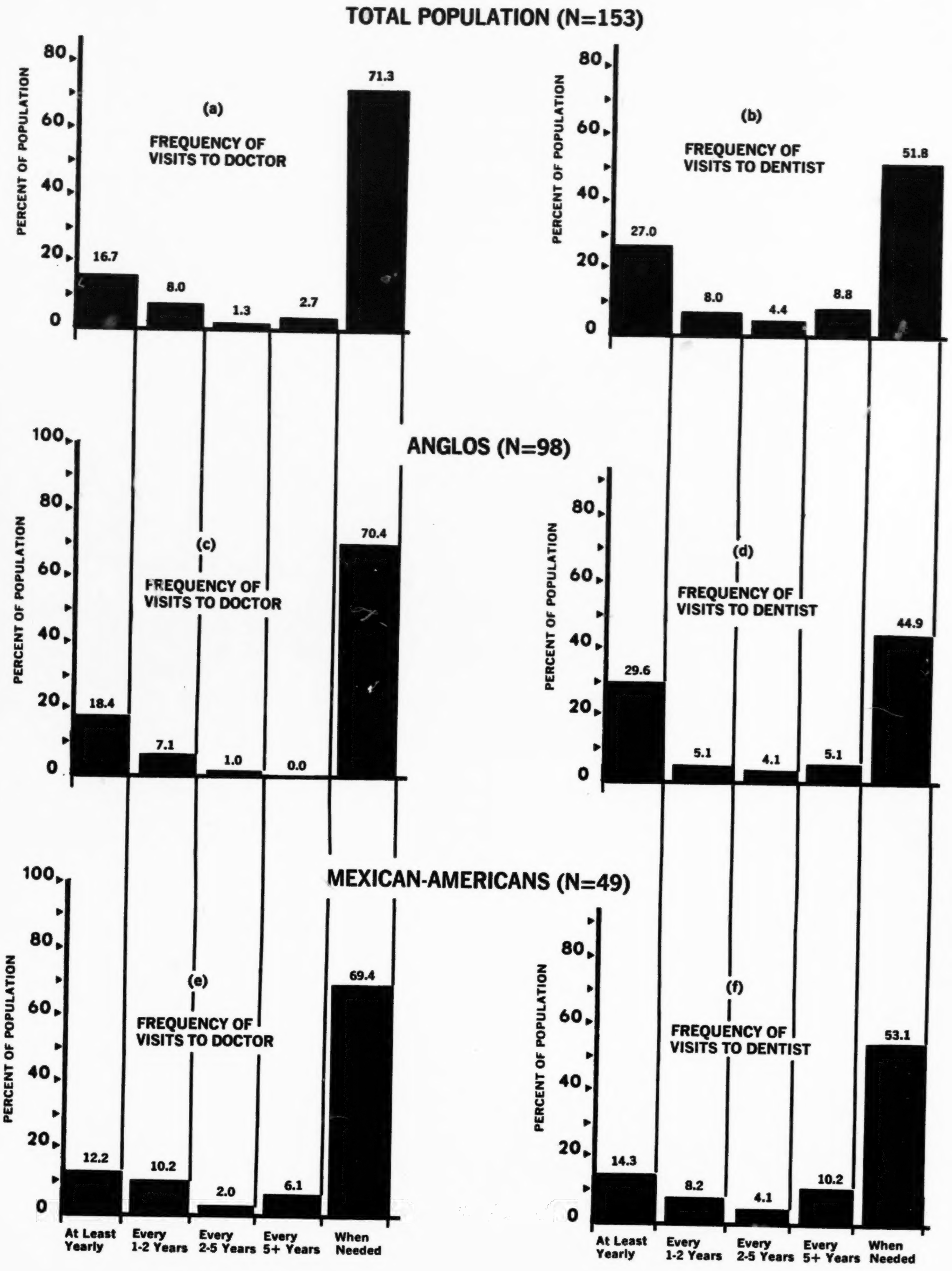
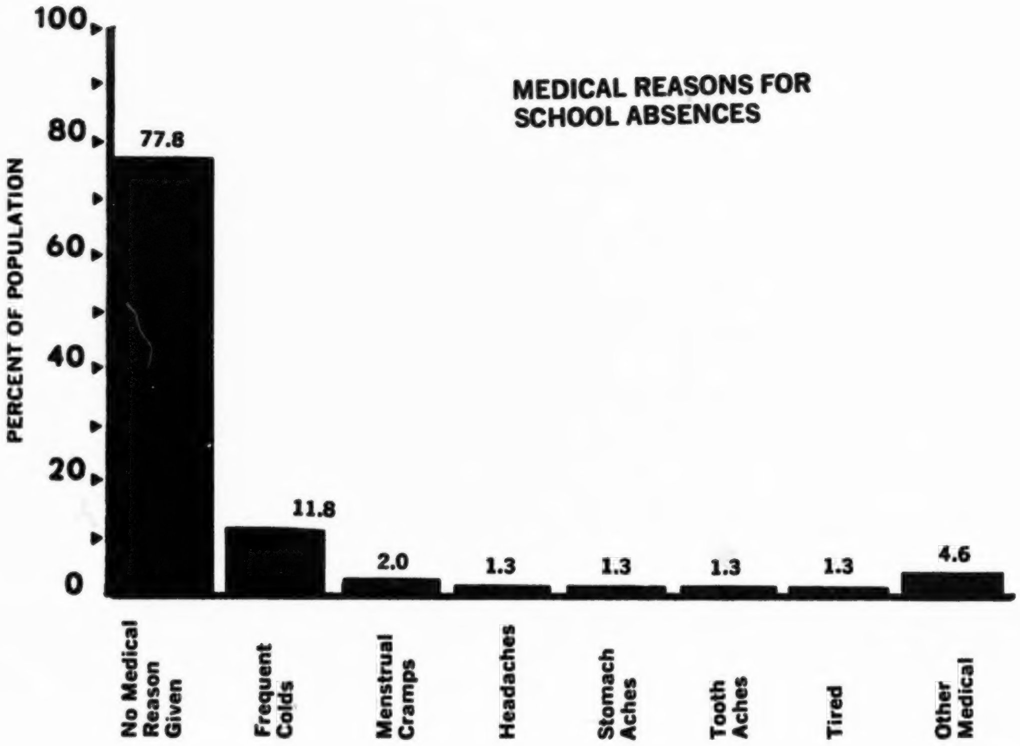

TOTAL POPULATION (N=153)
(a)
FREQUENCY OF VISITS TO DOCTOR
PERCENT OF POPULATION
0
20
40
60
80
16.7
8.0
1.3
2.7
71.3
(b)
FREQUENCY OF VISITS TO DENTIST
PERCENT OF POPULATION
0
20
40
60
80
27.0
8.0
4.4
8.8
51.8
ANGLOS (N=98)
(c)
FREQUENCY OF VISITS TO DOCTOR
PERCENT OF POPULATION
0
20
40
60
80
100
18.4
7.1
1.0
0.0
70.4
(d)
FREQUENCY OF VISITS TO DENTIST
PERCENT OF POPULATION
0
20
40
60
80
29.6
5.1
4.1
5.1
44.9
MEXICAN-AMERICANS (N=49)
(e)
FREQUENCY OF VISITS TO DOCTOR
PERCENT OF POPULATION
0
20
40
60
80
100
12.2
10.2
2.0
6.1
69.4
(f)
FREQUENCY OF VISITS TO DENTIST
PERCENT OF POPULATION
0
20
40
60
80
14.3
8.2
4.1
10.2
53.1
At Least Yearly
Every 1-2 Years
Every 2-5 Years
Every 5+ Years
When Needed
At Least Yearly
Every 1-2 Years
Every 2-5 Years
Every 5+ Years
When Needed

Figure 15

TOTAL POPULATION (N=153)



will consult a doctor each year, while the remaining one-sixth vary their attendance from one to five years or more.

Half of the students visit a dentist only when it is necessary. Slightly less than half of the remaining sample (one-fourth) go at least once a year.

Between the Anglo and Mexican-American subgroups, there are no statistically significant differences in their practices of visiting doctors. More than two-thirds of the Mexican-Americans and Anglos consult medical practitioners only when necessary.

As for visiting a dentist, approximately one-half of both the Anglo and Mexican-American populations report dental consultations only when necessary.

The difference between the two subgroups in visiting a dentist once or more a year, however, is statistically significant at a .05 level of confidence. Of the Mexican-American sample, approximately one-sixth goes to a dentist once a year, while one-third of the Anglo population reports dental consultation of the same frequency. No other subgroup differences in dental visitation practice are significant.

Reasons for School Absences: Medical reasons are seldom responsible for school absences among the students of Valley High School. When absent from school, 78% of the sampled population were absent for other than medical reasons during the school year. Colds, the most common reason, were listed as reasons for absences by only 12% of the students. This suggests that psycho-social factors may keep the students from normal attendance.

PRESENT GENERAL HEALTH STATUS (See Figs. 16 - 20):

Blood Pressure and Pulse Rate, Height and Weight: Nearly all of the students have normal blood pressure and pulse rate, as defined in Cole and Hall, (1964). The average student is physically well proportioned. More than three-fourths of the students are between five feet, and five feet and ten inches tall. Over one-half weigh between 110 and 150 pounds. The majority of students are described as thin or athletic body types.

Nutritional Condition: Few students appear to suffer from poor nutrition, but less than 10% of the students seem to enjoy excellent nutrition. Nurses judged the remaining student body to be in fair to good health.

Dental Examination: Of the sample population, 40% have teeth in good condition; 35% have moderate carries, and 15% have severe carries. The remaining students need to have their teeth cleaned, or require some orthodontic attention.

Audiological Information: According to audiological testing, more than two-thirds of the students have normal hearing in the low range of 250 to 1000 cycles per second, while slightly more have normal hearing in the high range of 2000 to 4000 cycles per second. In low range testing of right and

Figure 16

TOTAL POPULATION (N=153)

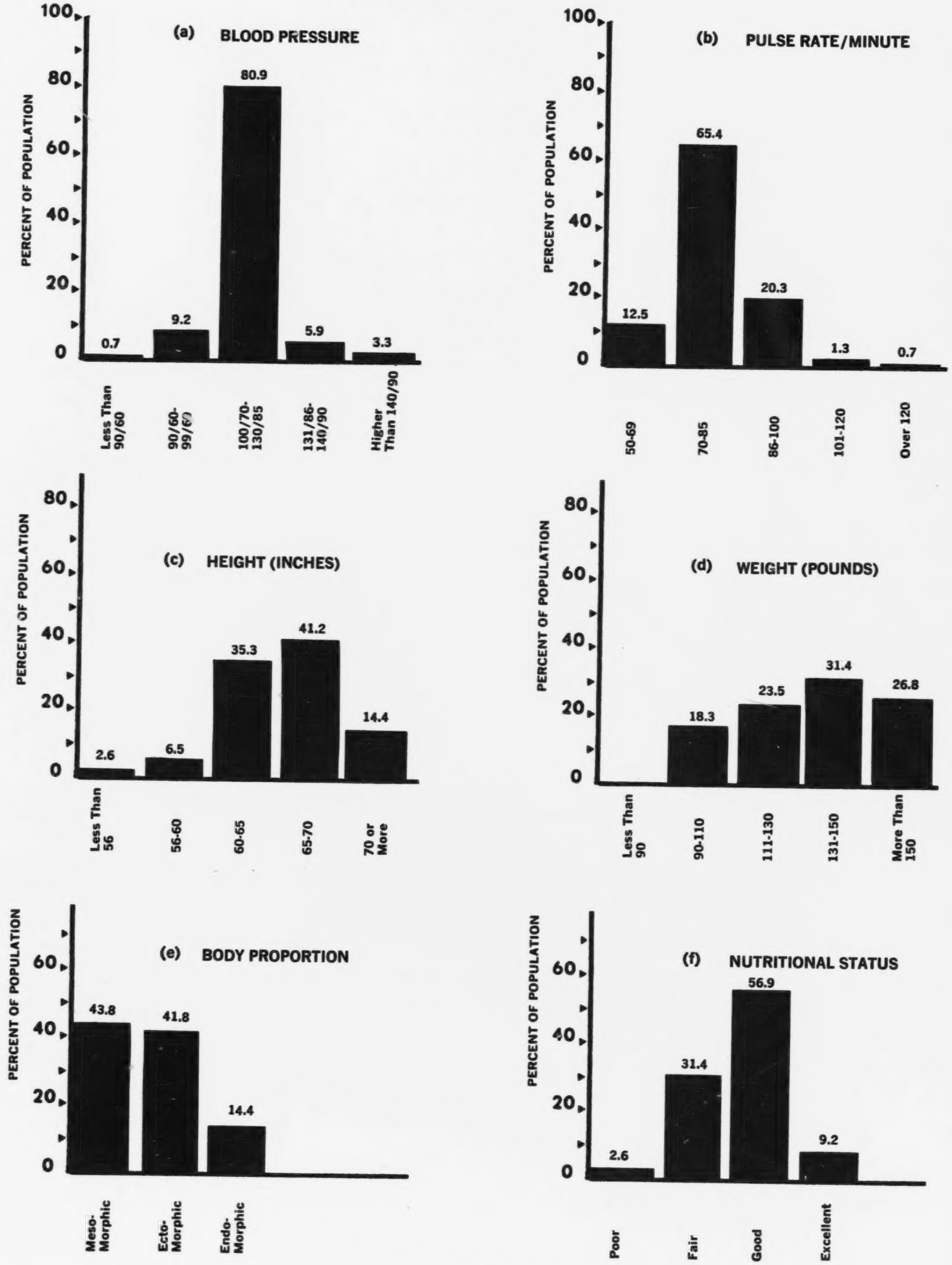


Figure 17 CONDITION OF TEETH

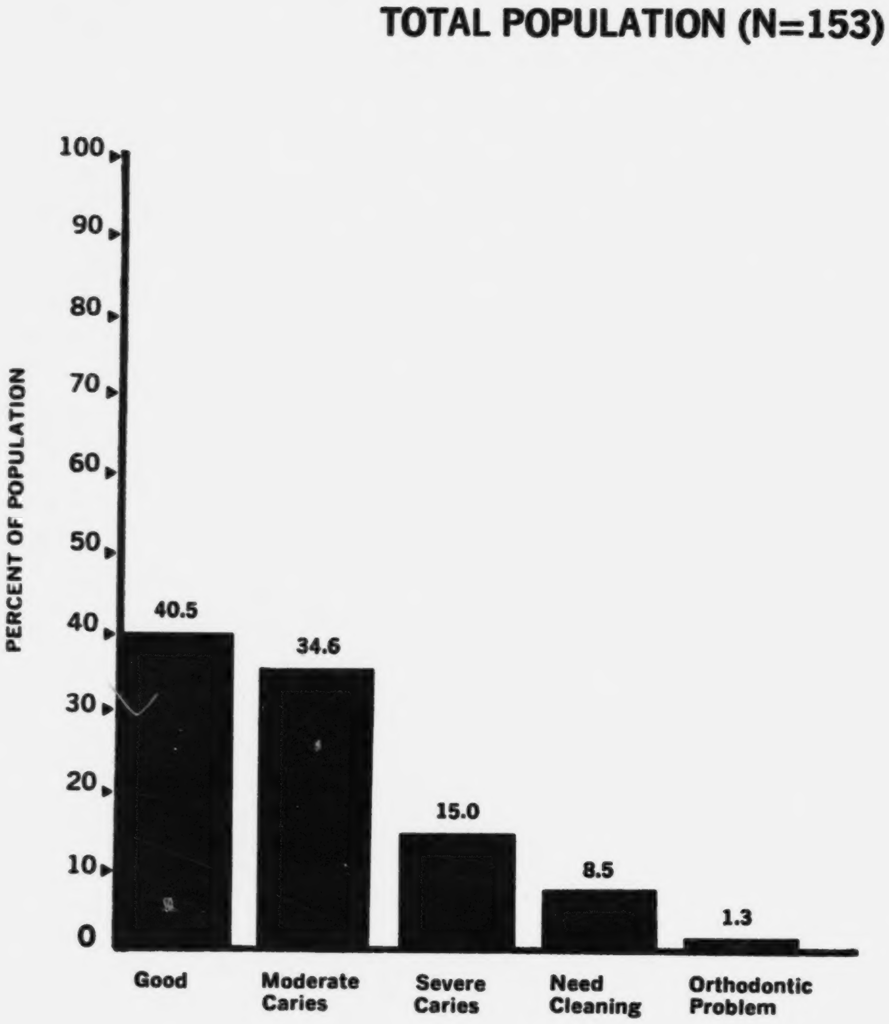
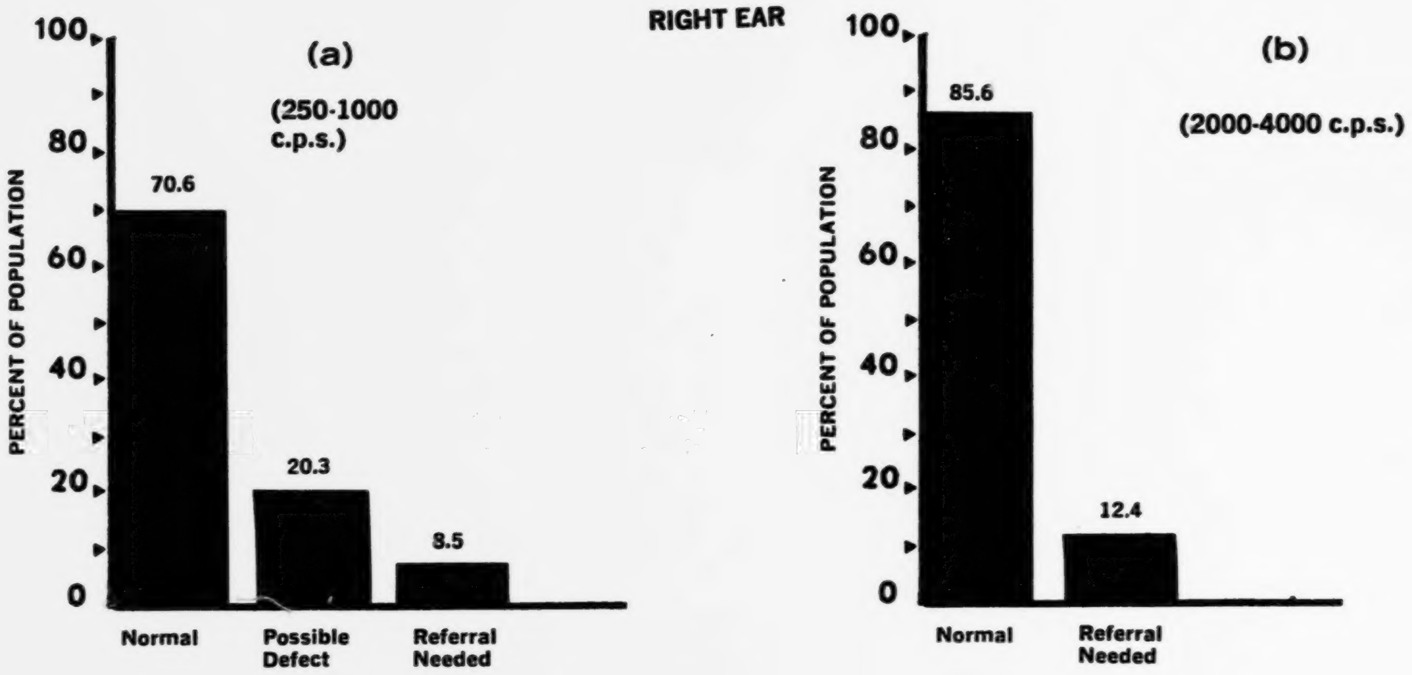


Figure 18 HEARING

TOTAL POPULATION (N=153)

RIGHT EAR



LEFT EAR

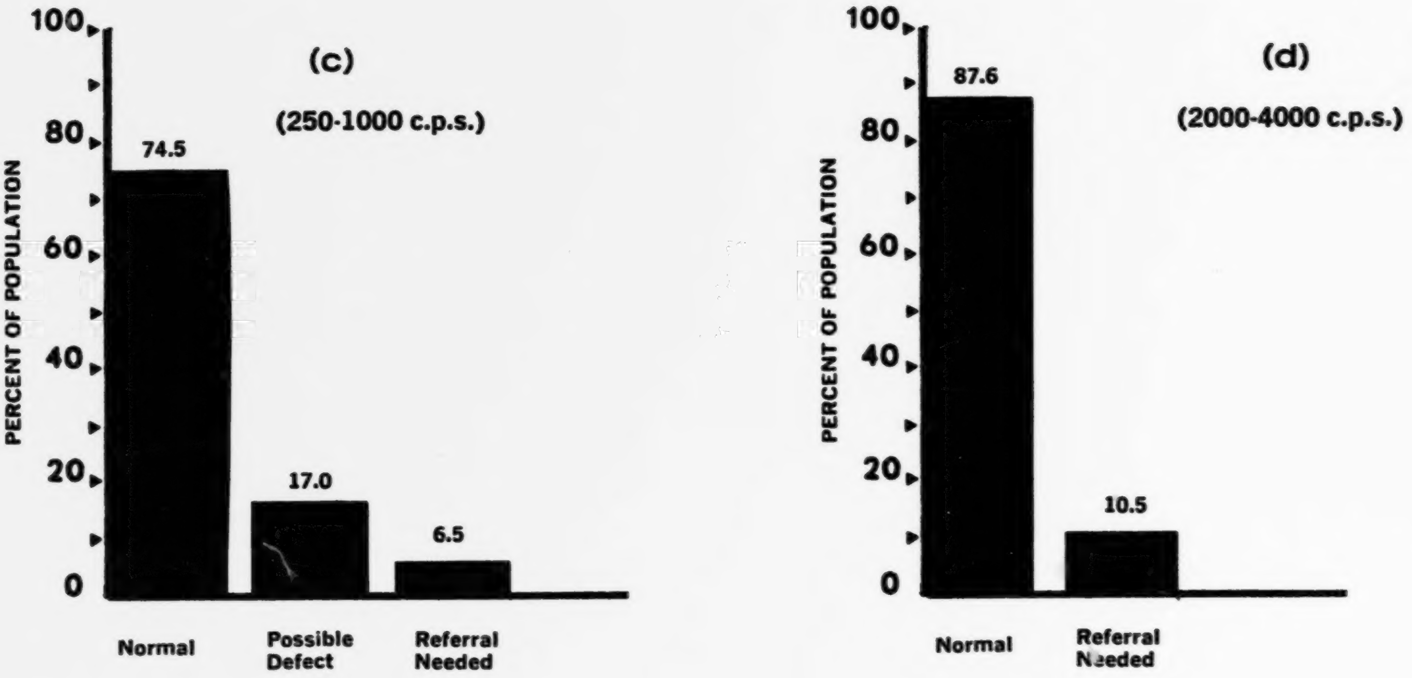


Figure 19 TOTAL POPULATION (N=153)

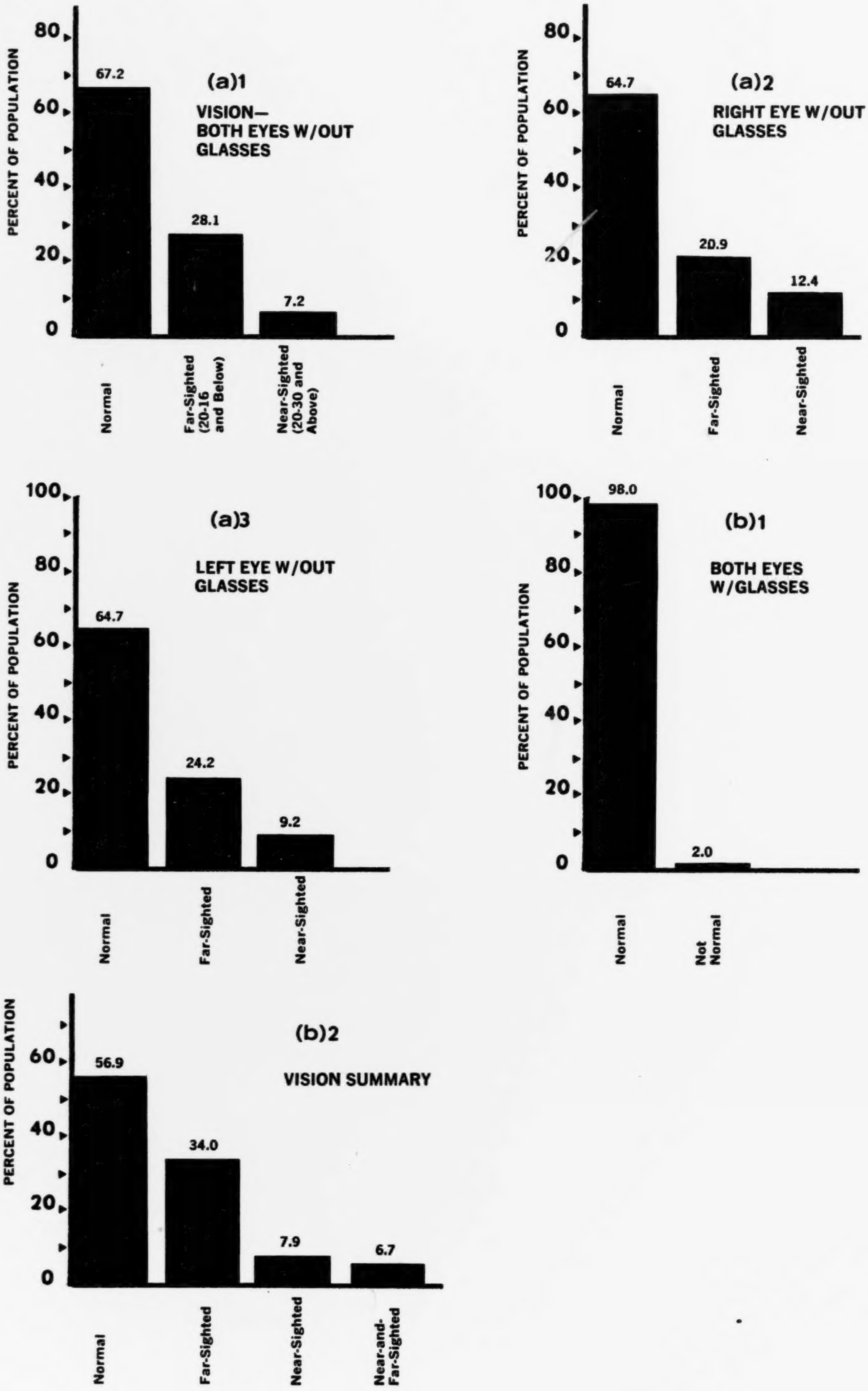
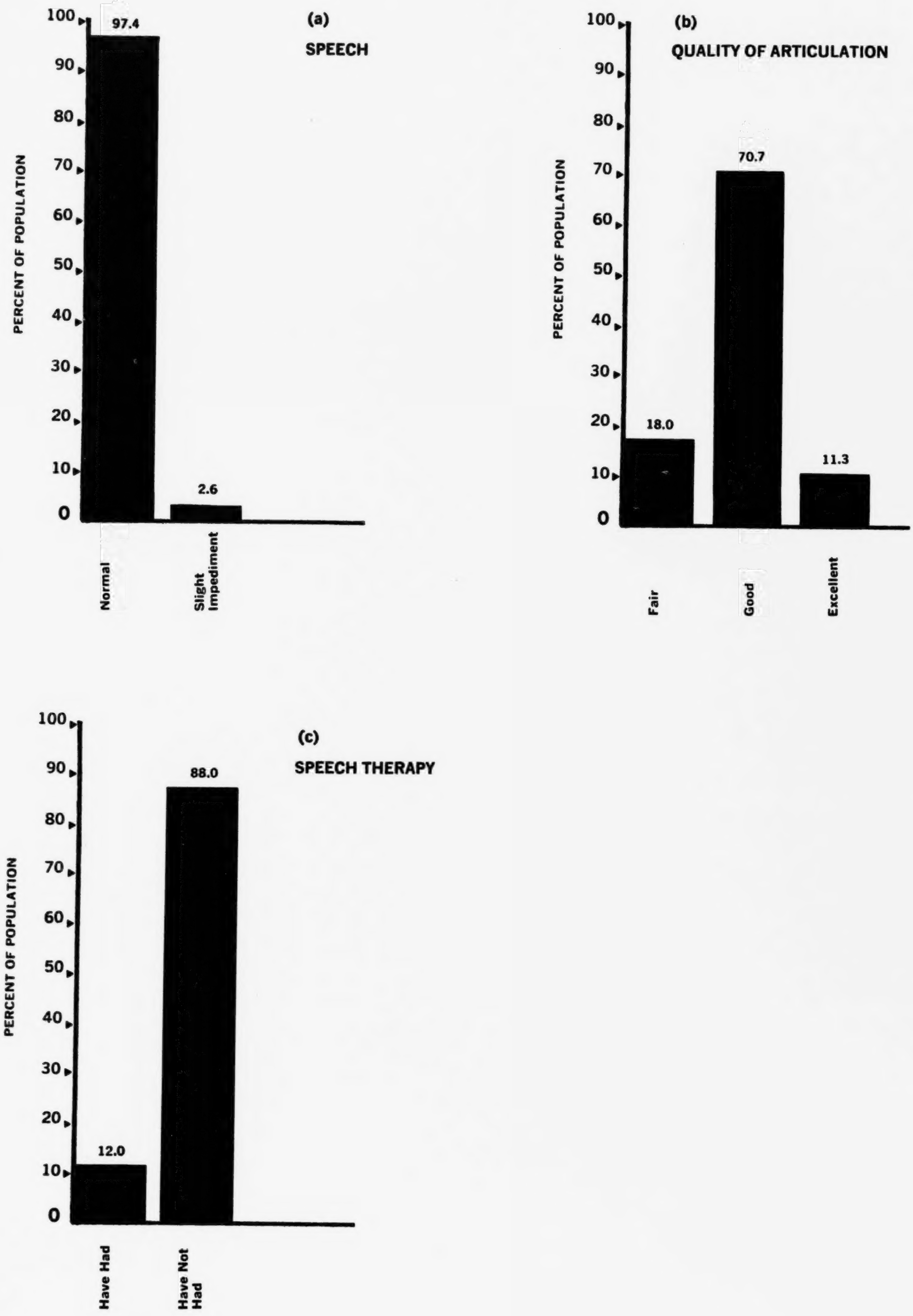


Figure 20 TOTAL POPULATION (N=138)



left ear, 15% of the sample population were recommended for referral, while 20% of the students require "possible" referral for sub-normal hearing in the low range. This finding is meaningful since it is in the low range that the normal speaking voice occurs.

Visual Information: Two-thirds of the tested students have normal vision without glasses. Nearly one-third of the students are far-sighted, that is, their vision is 20/16 or below. The data shows that nearly all students have normal vision allowing for the use of corrective lenses.

Speech Pattern, Articulation, and Remediation: Nearly all students measured were judged to have normal speech patterns, and over four-fifths of them have good to excellent articulation. It is to be noted, however, that about one-eighth of the students have had some speech therapy.

LATERAL PREFERENCE (See Figs. 21 - 22)

Only one student in five (21.0%) was found to have a consistent preference for using one side of his body. The largest single category, 38.3% is "mixed preference;" 11.8% show "crossed preference."

NURSES' RECOMMENDATIONS (See Fig. 23)

In more than one-fourth of the cases, nurses' recommended that students be referred for further examination and treatment of either hearing and/or vision impairments. Dental care was

Figure 21

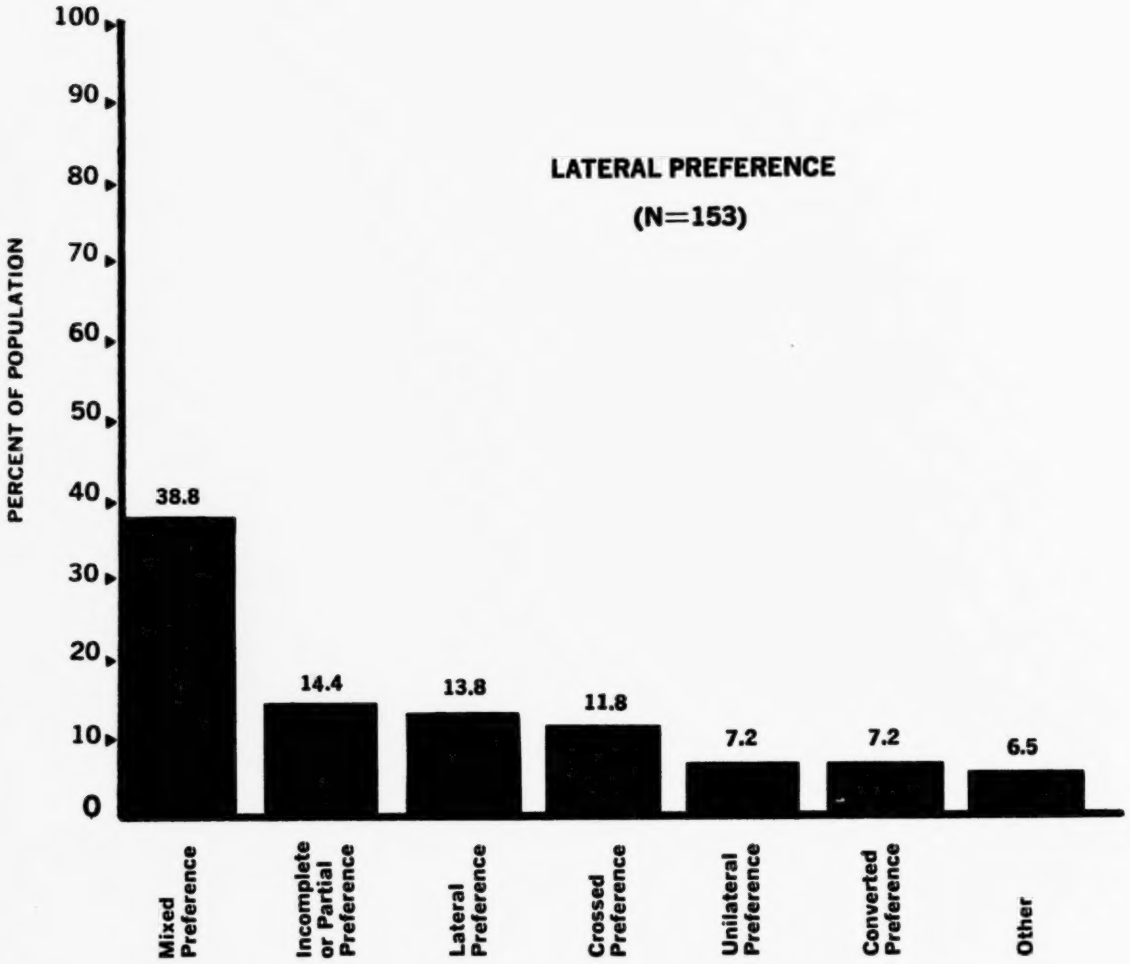

LATERAL PREFERENCE
(N=153)
PERCENT OF POPULATION
100
90
80
70
60
50
40
30
20
10
0
38.8
14.4
13.8
11.8
7.2
7.2
6.5
Mixed Preference
Incomplete or Partial Preference
Lateral Preference
Crossed Preference
Unilateral Preference
Converted Preference
Other

Figure 22

LATERAL PREFERENCE TERMS

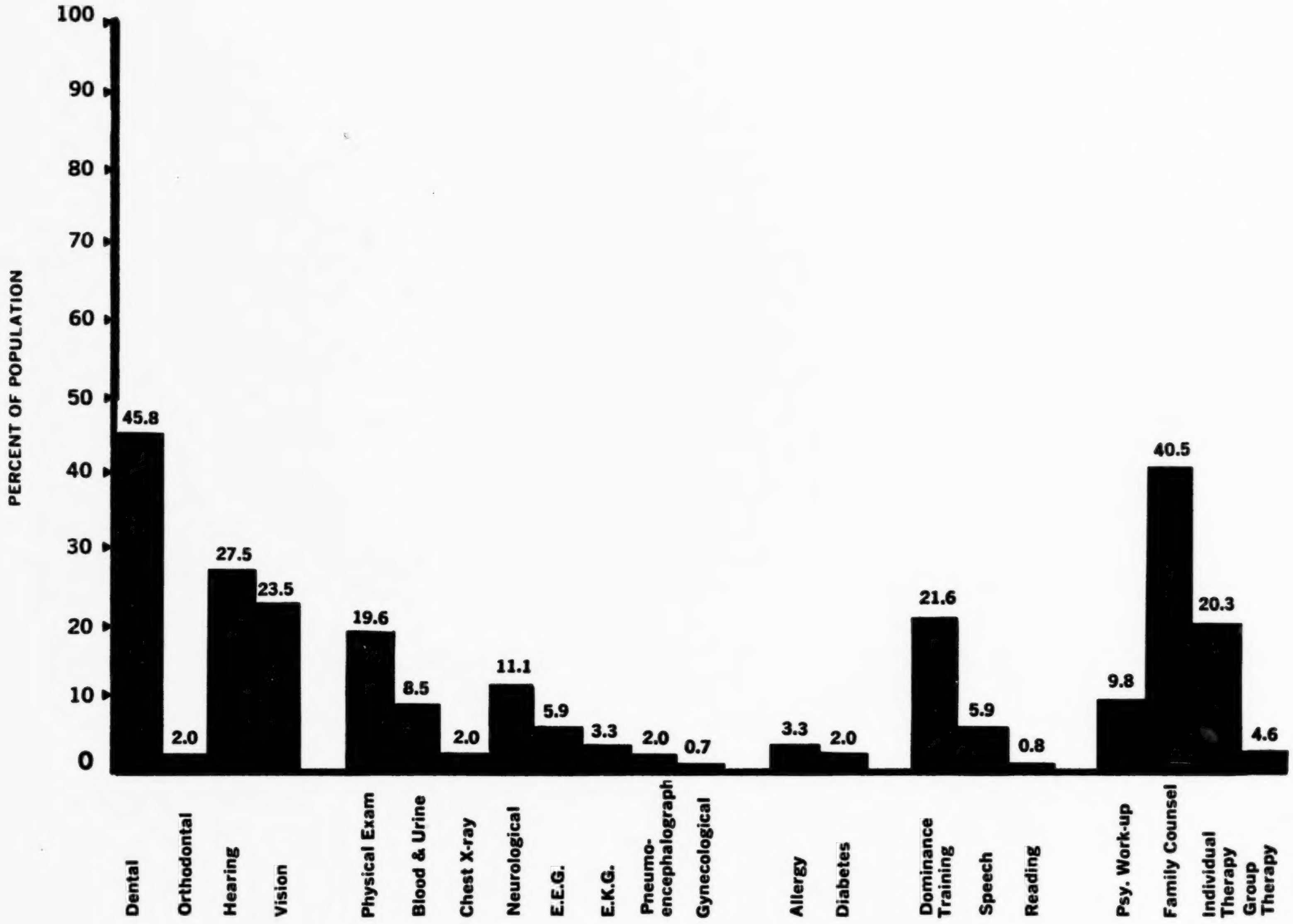
Lateral Preference	The preferred use and superior functioning of one side of body over the other.
Crossed Preference	Dominant hand and eye appear on opposite sides of body.
Incomplete Preference	Equal use of both sides in hand, eye, and leg.
Impartial Preference	Same as incomplete.
Mixed Preference	Includes both crossed and incomplete preference.
Converted Preference	Shift in preference has taken place.
Unilateral Preference	One sided preference as opposed to crossed.
Eye Preference	The selection of the eye habitually used for sighting.

According to some in the field of reading disabilities and body dominance, a large number of children with some type of reading problem are found to have a CROSSED PREFERENCE.

Figure 23

NURSES' RECOMMENDATIONS

(N=153)



suggested for nearly half the students. The nurses indicated that slightly less than one-third of the students require nutritional improvement. From brief interviews, the nurses made recommendations for family counseling for 40.5% of the students, and other kinds of psychological services were also advised.

II. BEHAVIOR PROBABILITY INDICATORS

A system designer must know those factors which determine students' predispositions to instruction before he can develop the most effective modes of instructional stimulus. These factors, i.e., behavior probability indicators, are the subject of this section of the findings.

In order to assess the probable behaviors of Valley High continuation students in the world of further schooling, work, the military and the community, the Project made use of a twofold approach. This approach analyzes how the students at Valley High School view the curriculum and themselves as well; and, how they have been viewed by past and present teachers and school systems. Both measures are requisite to any assessment of the limits and constraints of the student population which will influence program planning for that population.

The Sociological Questionnaire (SOC) (see Table XV, 1, infra) and the Meaning of Words Inventory (MOWI) (see Table XVII, 1, infra) provided measures of the students' self-evaluations and their aspirations. The Instructional Preference Scale (IPS) (see Table XVIII, infra) was used as a measure of the students' evaluations of the curriculum at Valley High School. In order to gather an evaluation of the students by others, the staff utilized information from the

Cum folders (the RHI), and Teacher Evaluation Surveys (TES). (See Table XIX, 1, infra.)

A. Evaluation and Attitudes of the Students

1. Sociological Questionnaire

Data obtained from the SOC can be divided into three sections: the students' personal data; the students' attitudes towards school; and, the students' work and future plans. Student answers to those questions on the SOC which seek personal data give some information as to the way the students see themselves. (Questions: #4, 13, 15, 16, 17, 18, 39, and 40; also see Figures 24-29; and Table XV, 1, infra.)

Such data indicate that 1.6% of the total male population at Valley High School and none of the total female population are married and also attending school. Of the males, 8.6% indicate that they are engaged, as compared with 19.0% of the females. Fifty percent of the males, and 40.5% of the females indicate no specific plans as to expected time of marriage after completion of high school. The following chart shows the sub-populational breakdowns. (See next page.)

Of the total population at Valley High School, 48.9% indicate that they go out almost every night of the week during school and on weekends. Of the males, 15.6%, as compared with 35.7% of the girls at Valley, indicate that they go out on weekends and one week night only. This difference was found to be significant at the .01 level. No significant

GOING STEADY, MARITAL STATUS AND FUTURE MARITAL PLANS:

	Percent of Total Pop.	Percent Males	Percent Females	Percent Anglo	Percent Mexican-American	Percent A	Percent B
Married	1.7	1.6	none	1.6	2.2	2.3	1.4
Single	51.7	54.7	40.5	53.1	51.1	56.3	47.9
Engaged	10.8	8.6	19.0	11.7	8.9	8.0	13.7
Going Steady	21.0	18.0	31.0	20.3	17.8	23.0	16.4
Plan to Marry in High School:							
No Chance	61.9	68.0*	42.9	61.7	64.4	62.1	61.6
Some Chance	15.3	12.5	23.8	14.8	15.6	17.2	12.3
Plan Marriage After High School:							
No Specific Plans	47.7	50.0	40.5	51.6	40.0	47.1	50.7
In Less Than Five Years	17.6	18.8	14.3	18.0	15.6	14.9	20.5

* The difference between male and female answers to this question proved to be significant at the .01 level.

Figure 24A SOCIOLOGICAL QUESTIONNAIRE — PERSONAL DATA
TOTAL POPULATION — N = 172

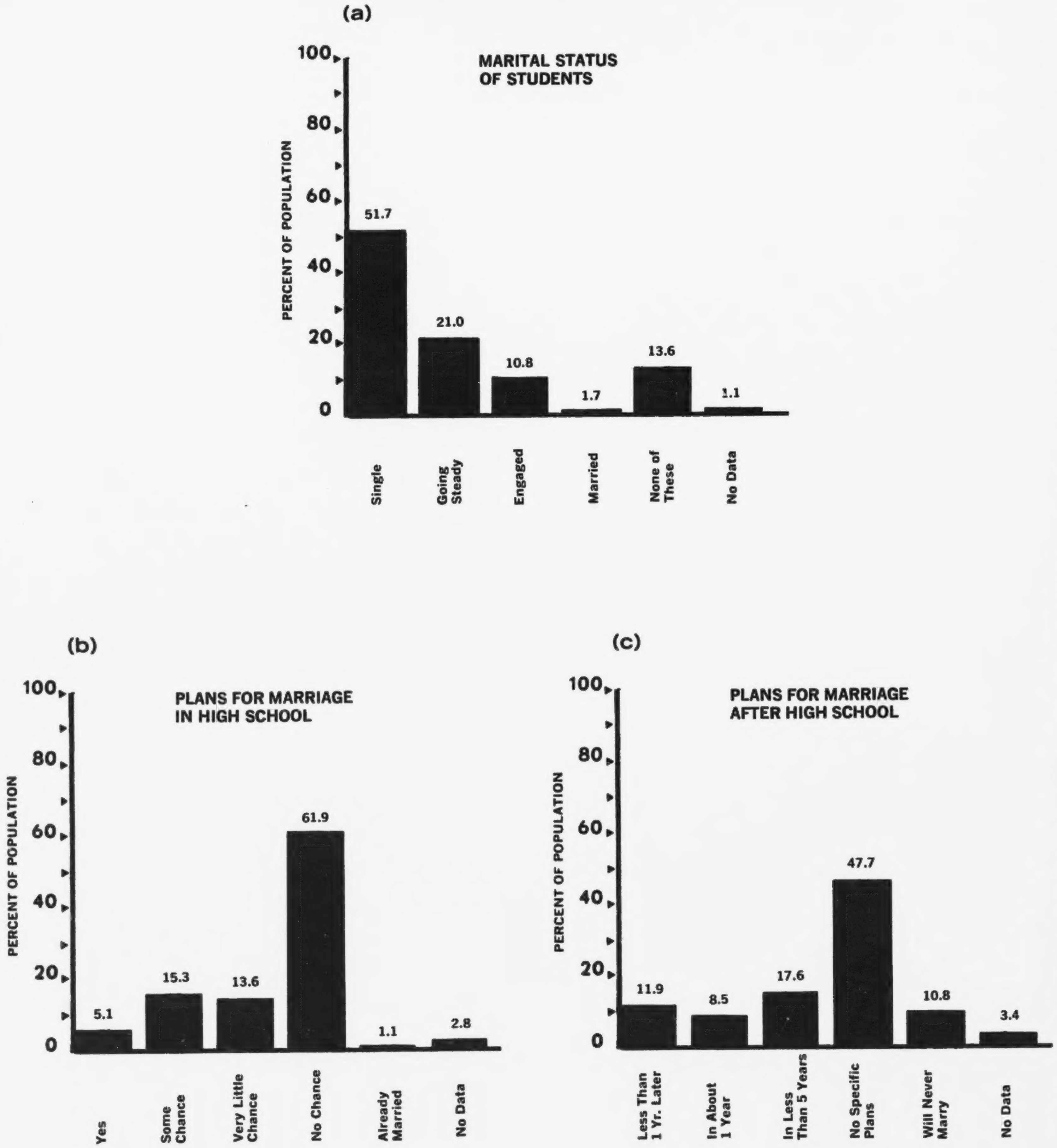
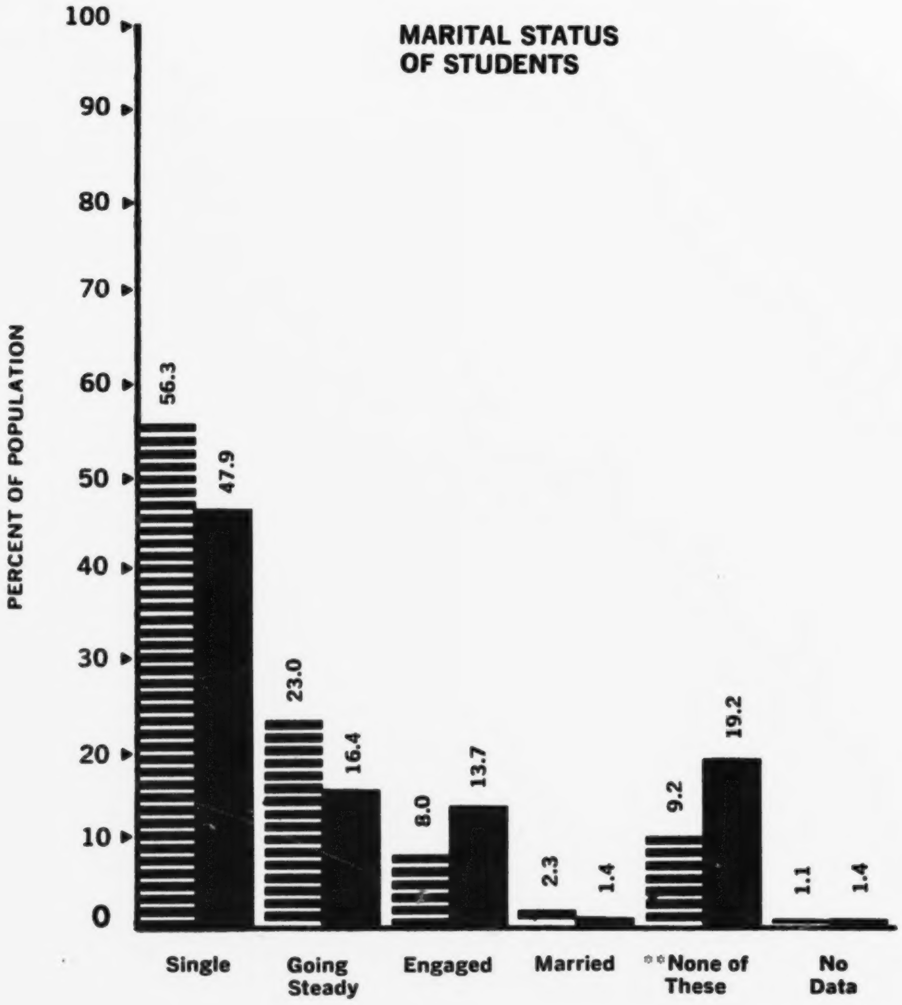


Figure 24B

SOCIOLOGICAL QUESTIONNAIRE

PERSONAL DATA—BY ATTENDANCE GROUP*



*These items show responses which differed at or beyond the .05 level of significance for the two attendance groups: A, N=87; and B, N=73.
▤ ■

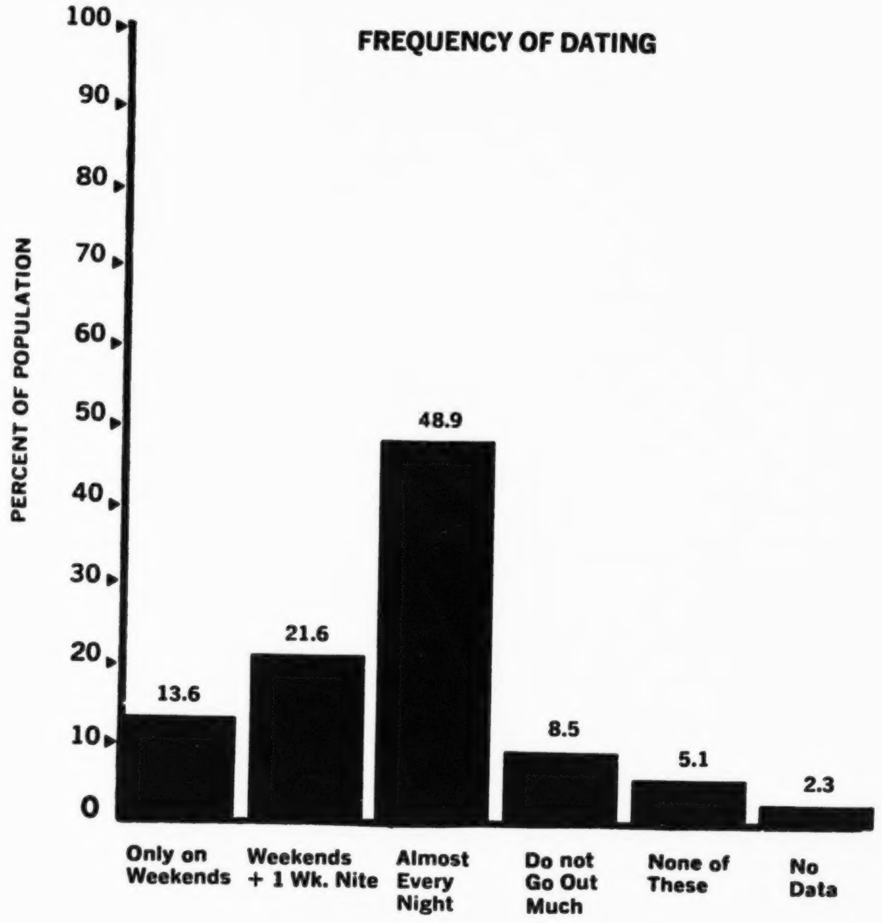
*.01 level

**.05 level

Figure 25

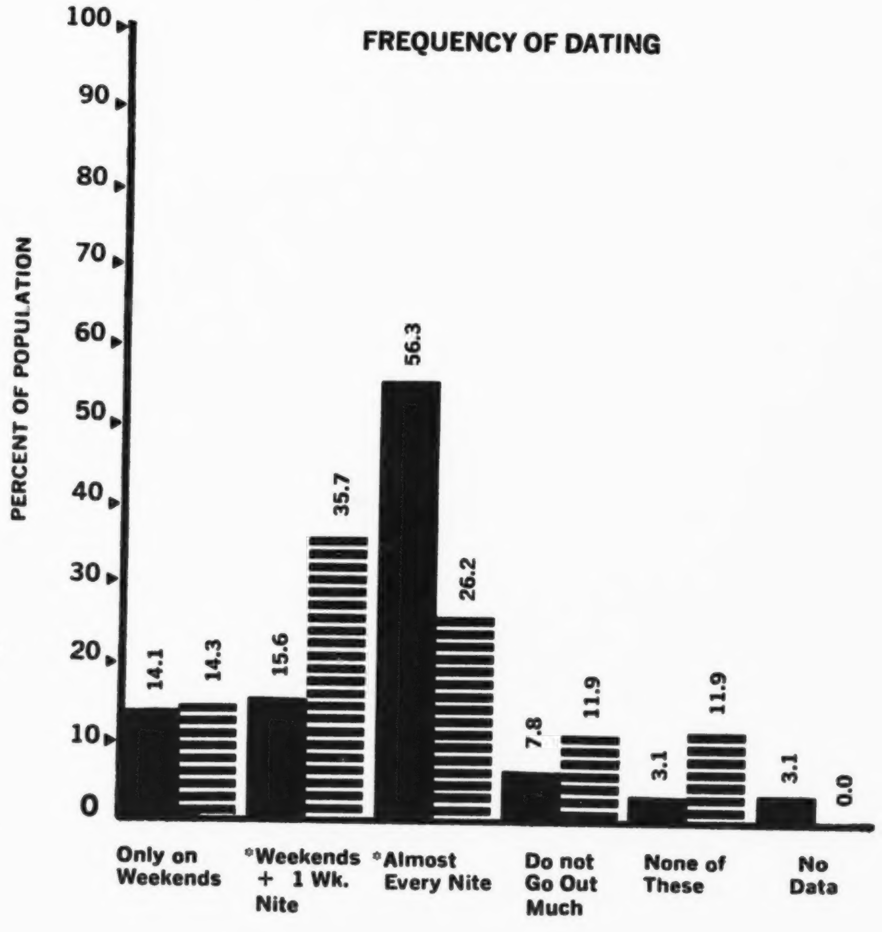
SOC — PERSONAL DATA
TOTAL POPULATION — N = 172

(a)



PERSONAL DATA — BY ATTENDANCE GROUP*

(b)



*These items show responses which differed at or beyond the .05 level of significance for the two attendance groups: A, N=87; and B, N=73.
▤ ■

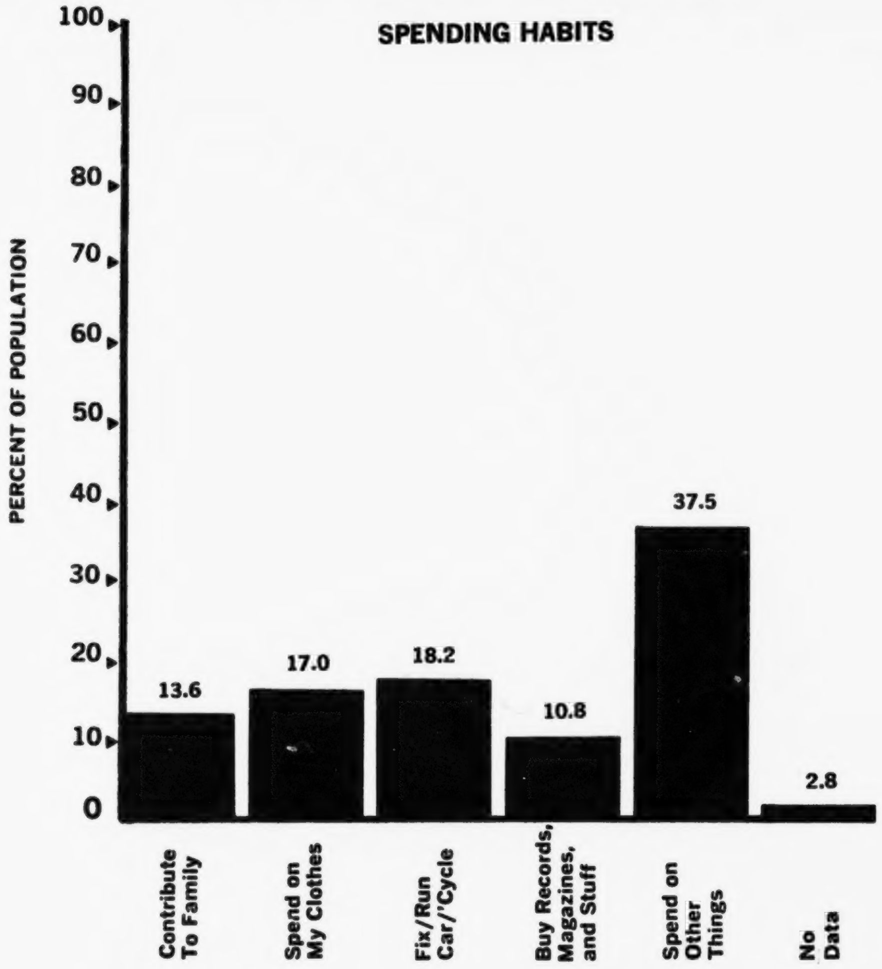
*.01 level

**.05 level

Figure 26A

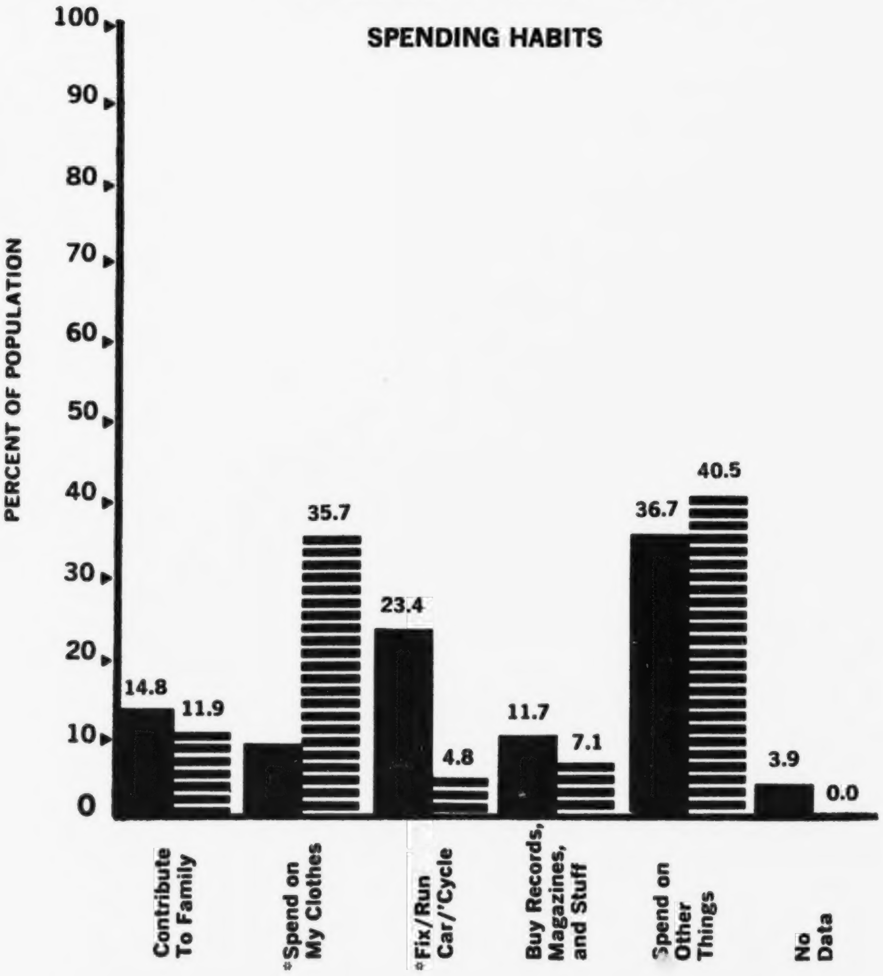
PERSONAL DATA
TOTAL POPULATION — N = 172

(a)


SPENDING HABITS

PERSONAL DATA — SEX*

(b)


SPENDING HABITS

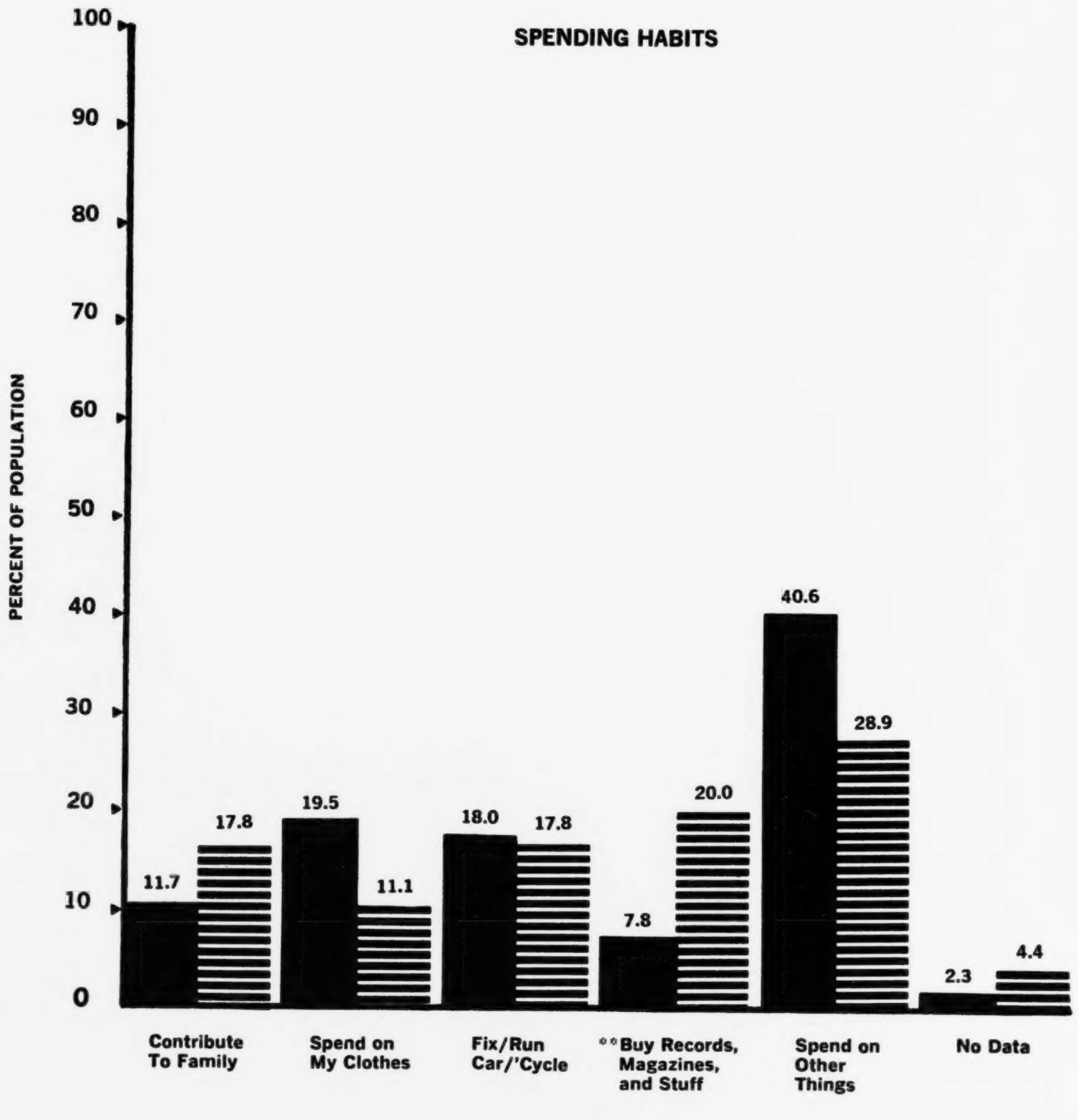
*These items show responses which differ at or beyond the 0.5 level of significance for the two groups: MALE, N = 128 ■; and FEMALE, N = 42 ☰.

*.01 level

**.05 level

Figure 26B

SOCIOLOGICAL QUESTIONNAIRE
PERSONAL DATA—ETHNIC*



*These items show responses which differed at or beyond the .05 level of significance for the two groups: ANGLO, N=128; and MEXICAN-AMERICAN, N=45.
■ ☰

**.05 level

Figure 27 SOCIOLOGICAL QUESTIONNAIRE — PERSONAL DATA
TOTAL POPULATION — N = 172

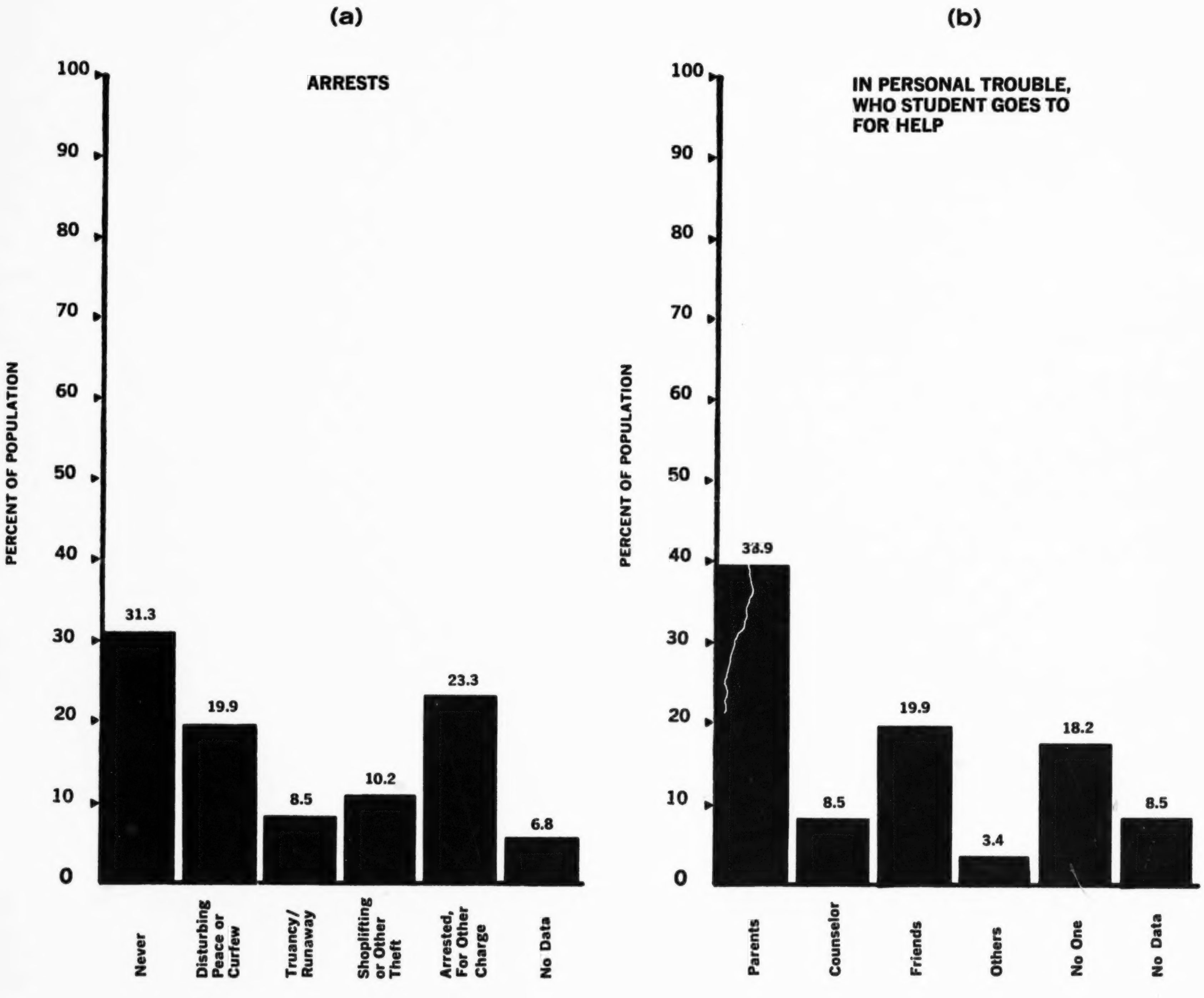
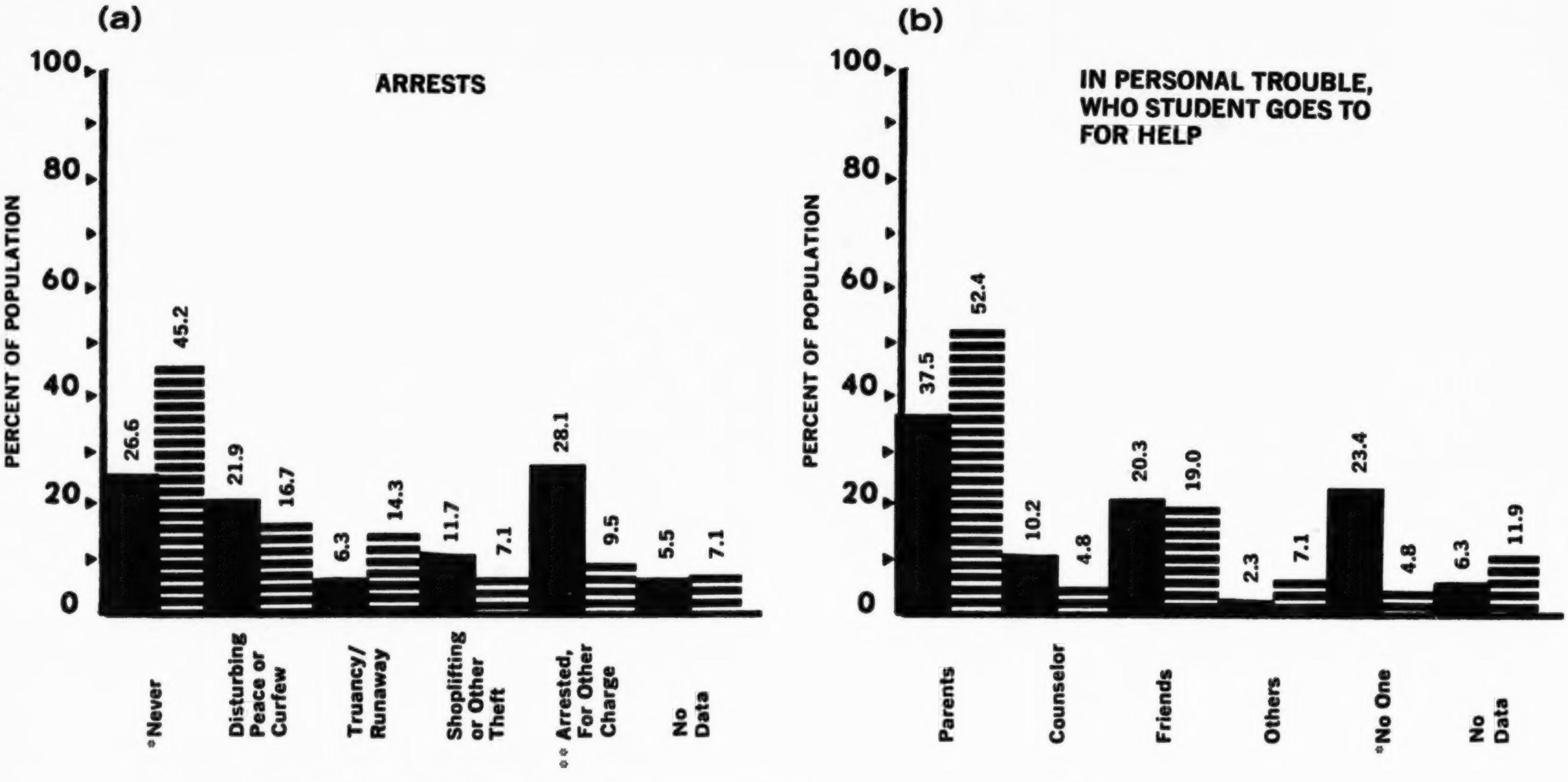


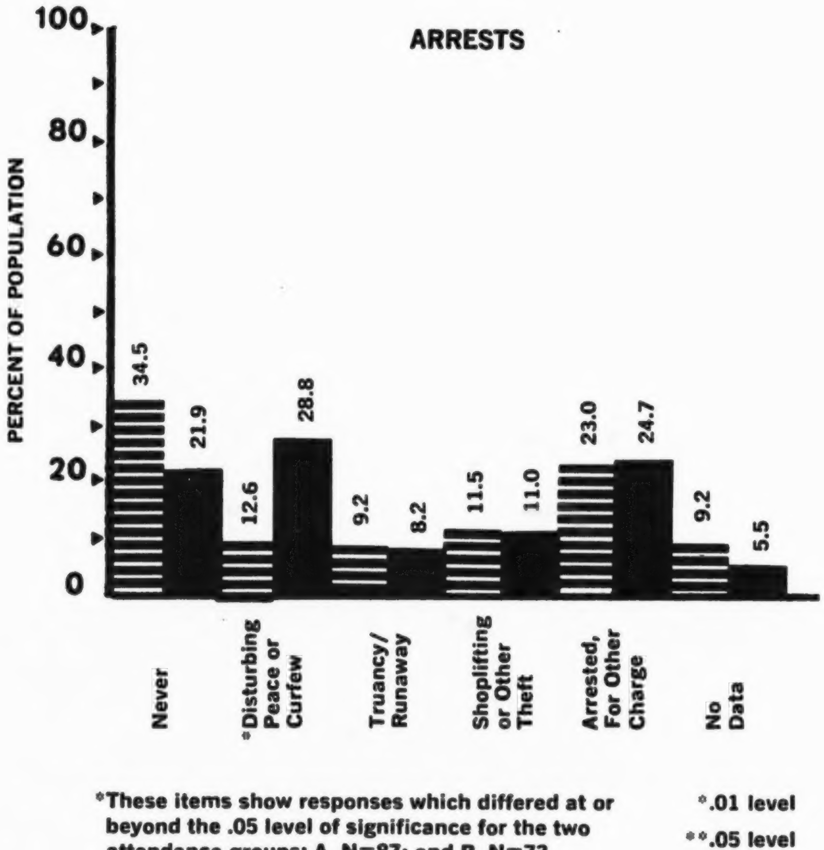
Figure 28A PERSONAL DATA BY SEX*



*These items show responses which differ at or beyond the 0.5 level of significance for the two groups: MALE, N = 128; and FEMALE, N = 42.

*.01 level
**.05 level

Figure 28B PERSONAL DATA—BY ATTENDANCE GROUP*



*These items show responses which differed at or beyond the .05 level of significance for the two attendance groups: A, N=87; and B, N=73.

*.01 level
**.05 level

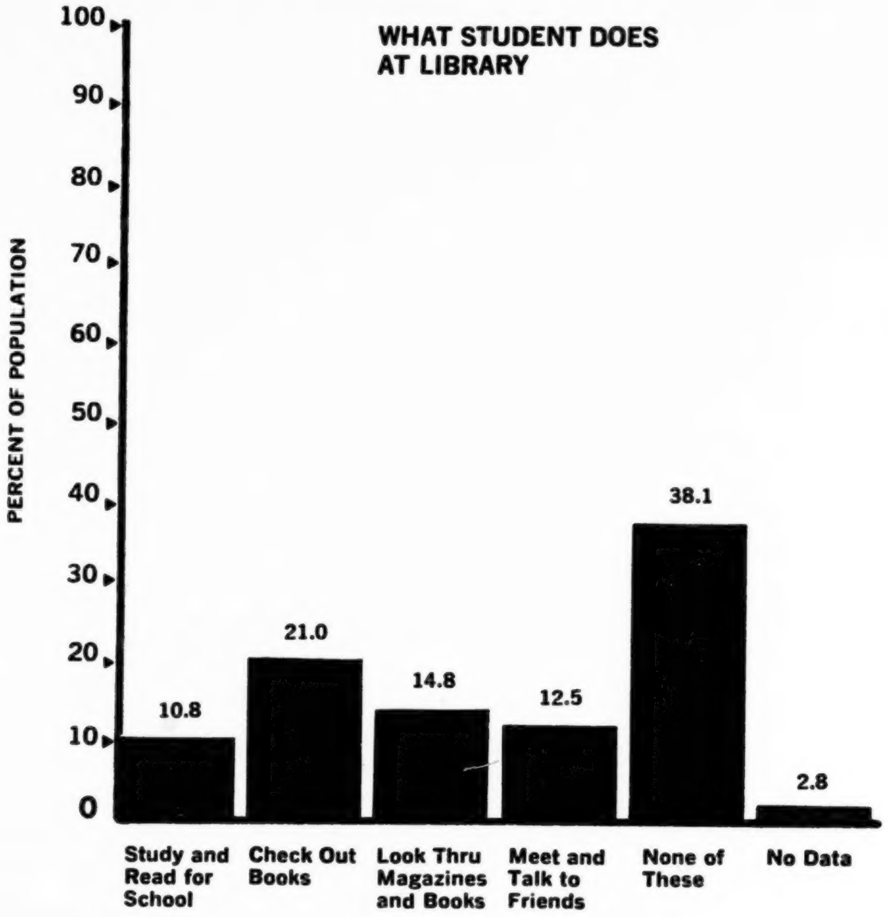
Figure 29

SOCIOLOGICAL QUESTIONNAIRE — PERSONAL DATA

TOTAL POP.

N = 172

(a)



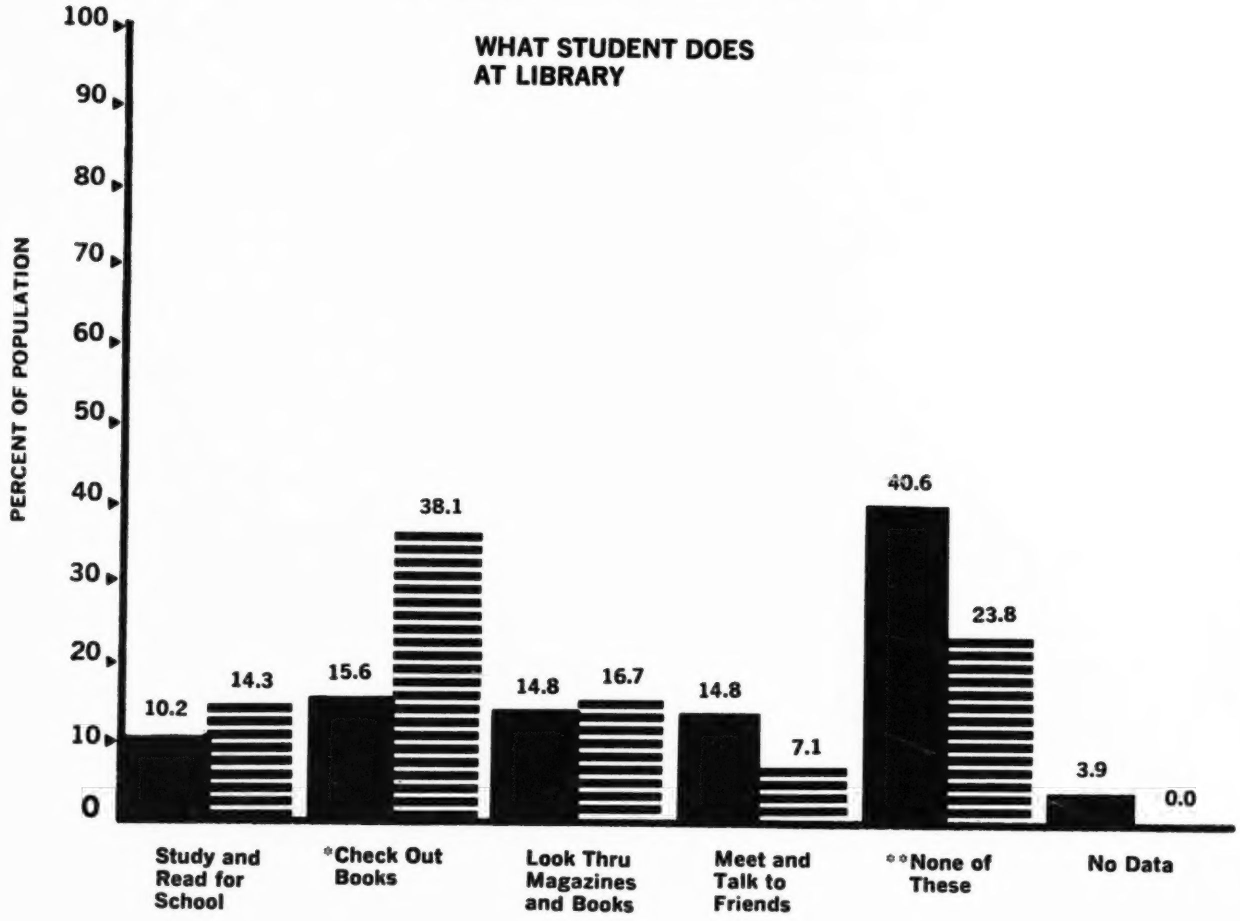
*These items show responses which differ at or beyond the .05 level of significance for the two groups: Male, ■ N=128; and Female, ▤ N=42.

*.01 level

**.05 level

PERSONAL DATA — SEX*

(b)



differences in "going out" patterns were found between the two ethnic groupings nor between the attendance groupings.

Only 9.4% of the males at Valley High School spend their money on clothing for themselves while 35.7% of the females do. Of the males, 23.4% indicate that they spend their money to repair and operate cars and motorcycles, as compared with 4.8% of the females. Twenty percent of the Mexican-American population indicate that they spend their money on "records, magazines and stuff," while only 7.8% of the Anglos spend their money in this fashion. This difference between ethnic groupings is significant at the 0.5 level.

In the total Valley High School population, 52.9% have been arrested; 31.3% have never been, and 6.8% did not answer. A significant difference was found between the percentage of males (26.6%) and females (45.2%) who state they have never been arrested. Data show that Group B (those who attend 50% of the time or less) have been arrested significantly more often for disturbing the peace or curfew violation than either Group A (those who attend 50% of the time or more), or Group C (those who were referred to Valley High School, but have not attended at all).

If in personal trouble, 23.4% of the males at Valley High School indicate that they would go to "no one" for help; 4.8% of the females answered similarly. In the total student population, 41.5% indicated that in case of personal trouble they would consult their parents; 19.9% would consult friends; and, 18.2% would consult no one. A significantly greater percentage of females stated that they would seek their parents' help.

Answers to questions #5, 6, 7, 9, 11, 12, 14, and 19 on the Sociological Questionnaire were used to measure the students' attitudes and feelings towards school, and more particularly, towards Valley High School. (See Figures 30 - 37, and Table XV, 1, infra.)

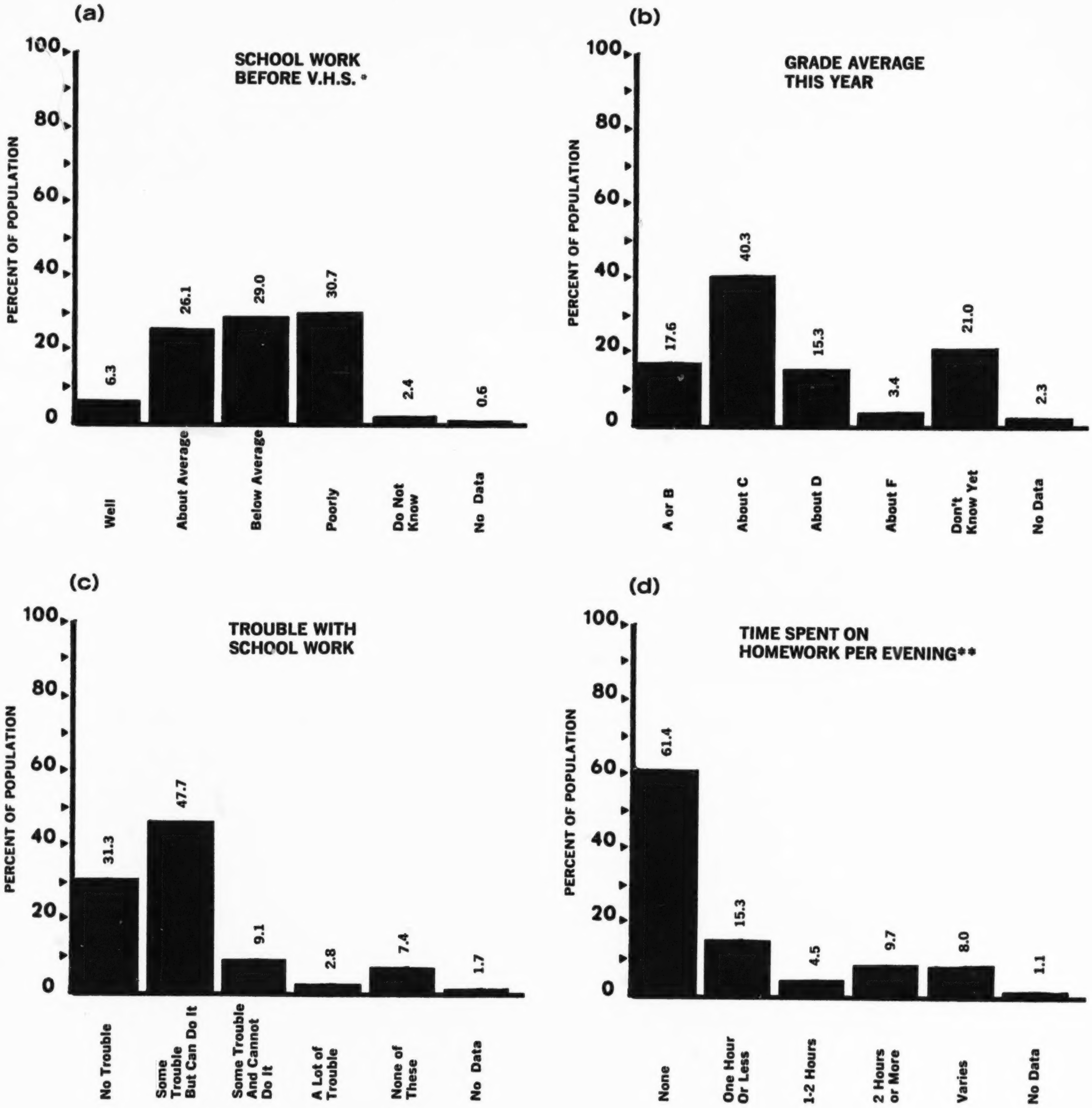
Of the total population at Valley High School, the percentage of students who indicate that they plan to stay at Valley High until they return to regular school is almost equal to the percentage planning to stay at Valley until graduation. A significantly greater proportion of the Mexican-American students as compared to Anglo students have expressed preference for staying at Valley High until graduation. Significantly more females than males intend to remain at Valley High until graduation; and a greater number of males indicated a preference for staying at Valley High only until they could return to regular school. According to attendance groupings, Group A expressed a preference for remaining at Valley High until graduation, while Group B expressed a preference for a return to regular school.

Of the total population, 39.8% feel that there is "no chance" of their dropping out of school before graduation. Attendance Group B more frequently expressed the

Figure 30

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL
TOTAL POPULATION — N = 172



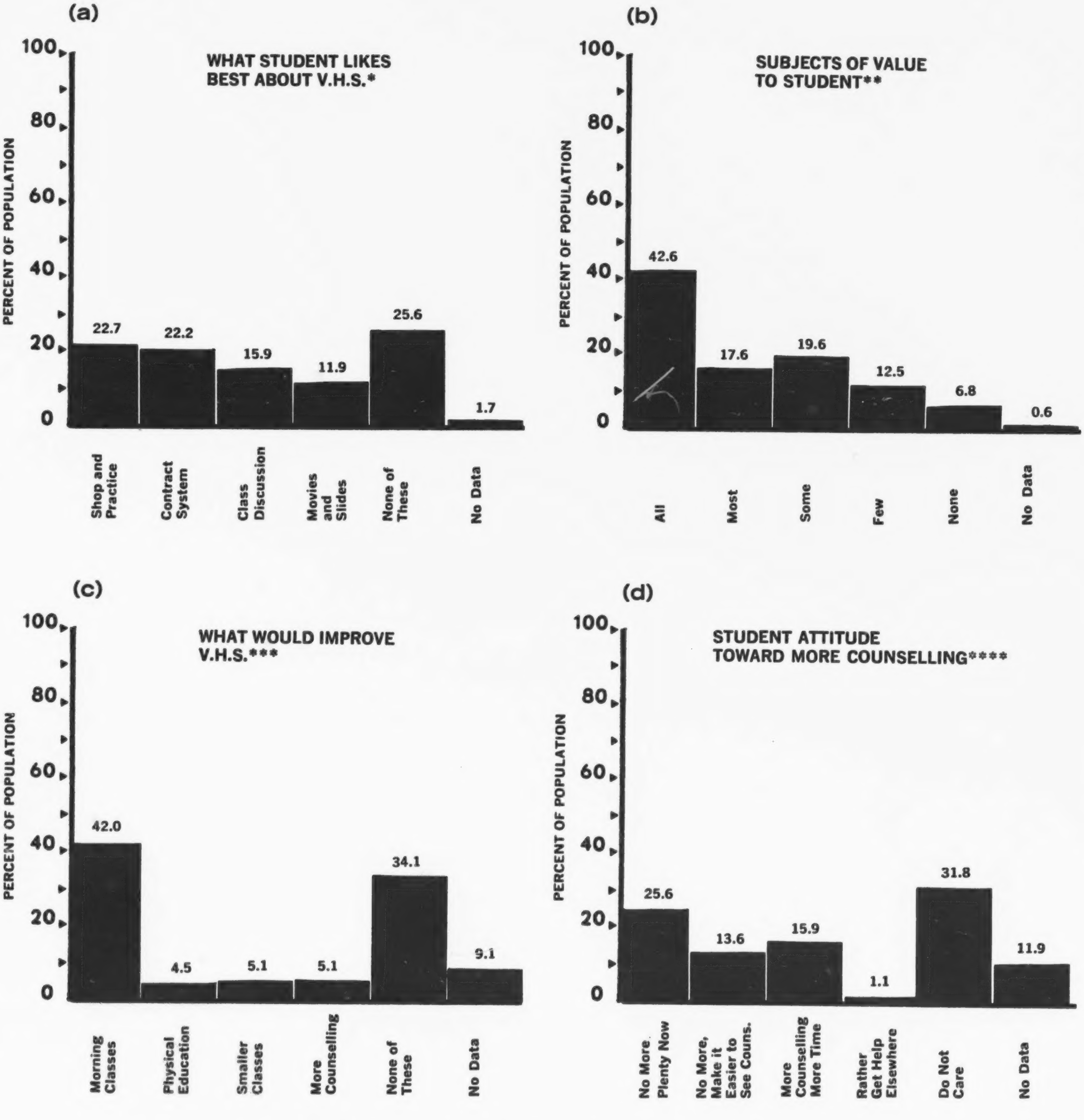
*See Fig. 35b for ethnic sub group comparison, infra.

**See Fig. 36c for attendance sub group comparison, infra.

Figure 31

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL
TOTAL POPULATION — N = 172



*See Fig. 34c for comparison by sex, Fig. 35c for ethnic subgroup comparison; infra.

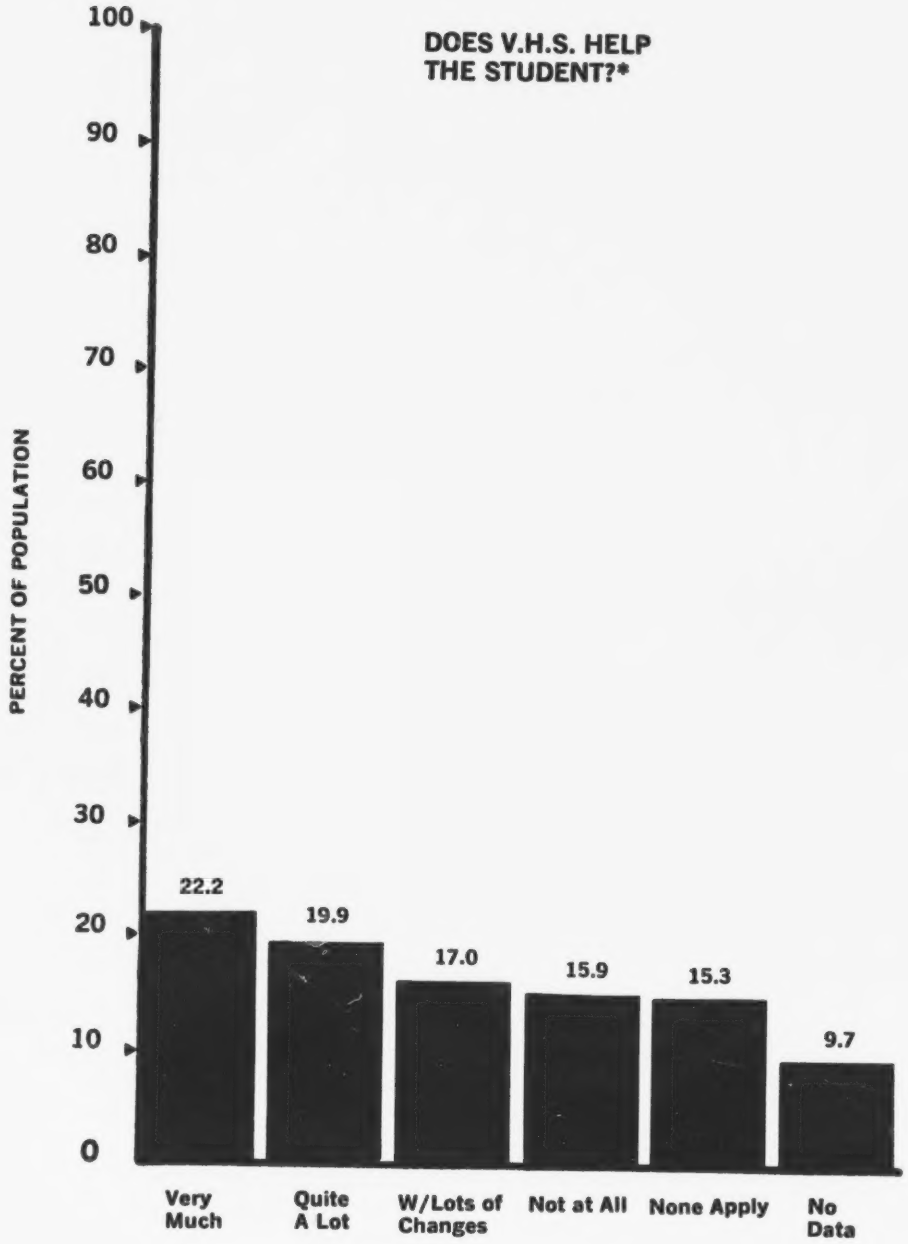
**See Fig. 36d for attendance subgroup comparison, infra.

***See Fig. 35d for ethnic subgroup comparison, infra.

****See Fig. 37a for attendance subgroup comparison, infra.

Figure 32 SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL – 4
TOTAL POPULATION – N = 172



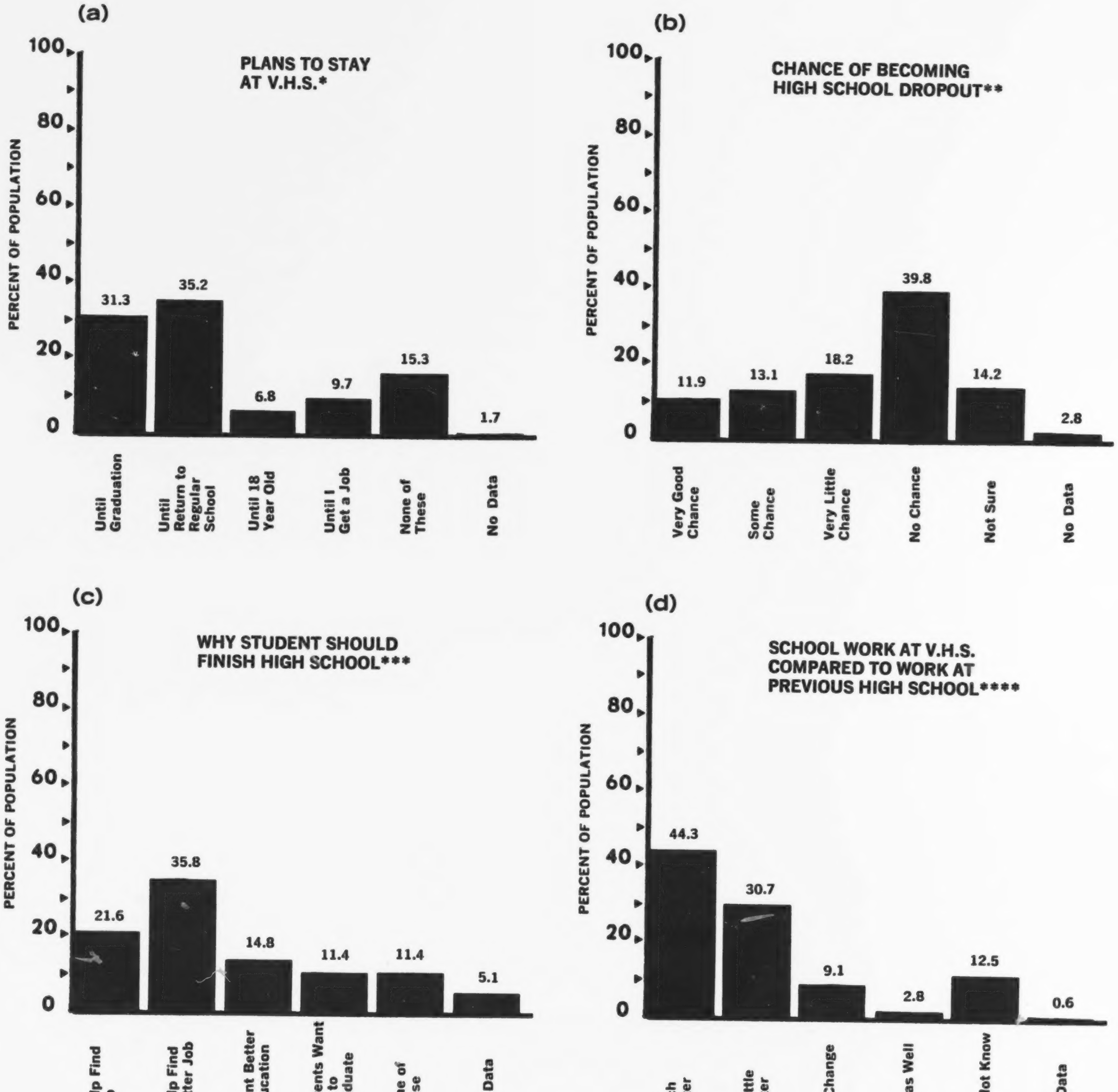
*See Fig. 37b for attendance subgroup comparison, infra.

Figure 33

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL

TOTAL POP.
N = 172



*See Fig. 34a for sex subgroup comparison; Fig. 35a for ethnic subgroup comparison, infra.

**See Fig. 36a for attendance subgroup comparison, infra.

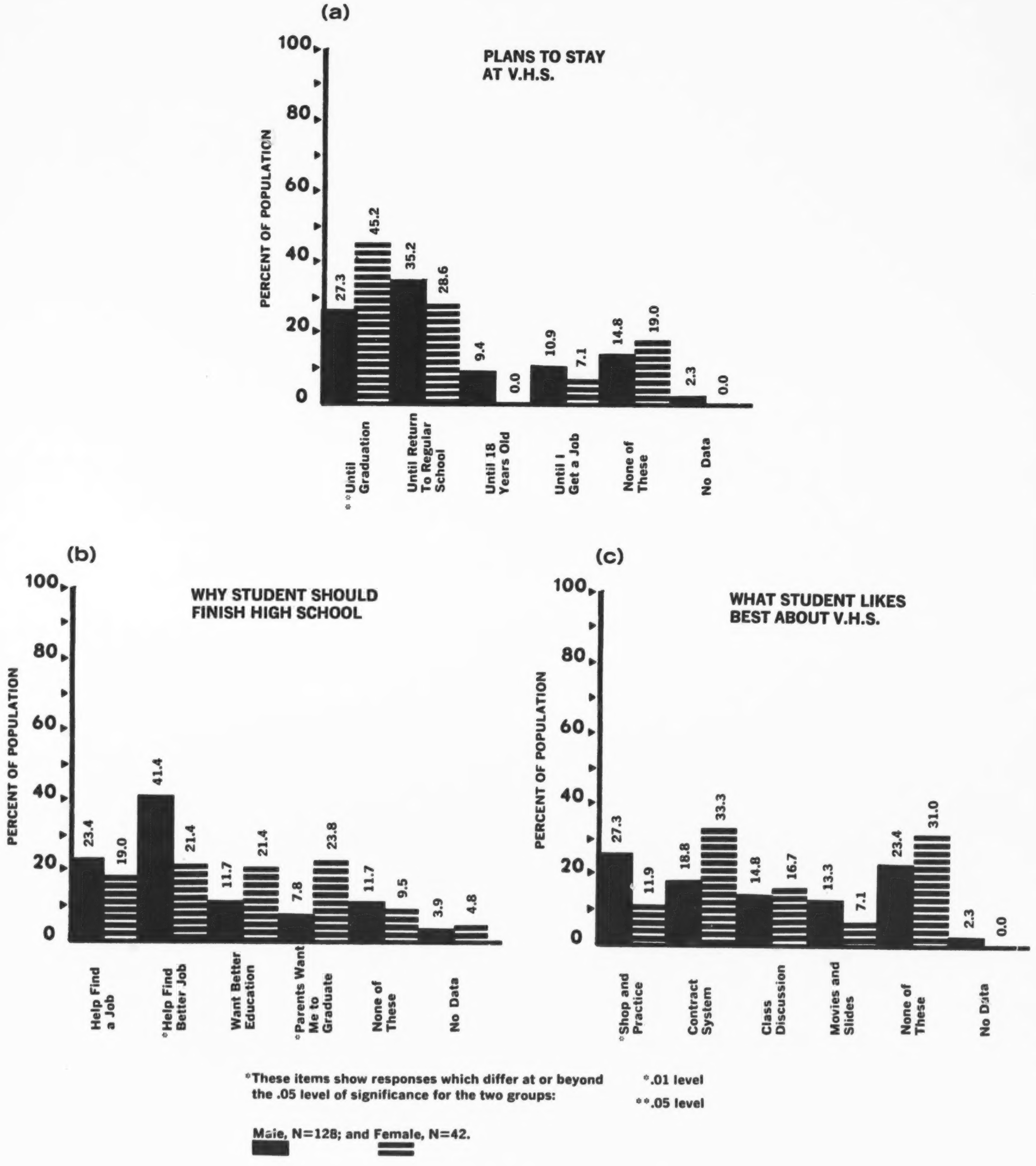
***See Fig. 34b for sex subgroup comparison, infra.

****See Fig. 36b for attendance subgroup comparison, infra.

Figure 34

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL—SEX*



*These items show responses which differ at or beyond the .05 level of significance for the two groups:

*.01 level

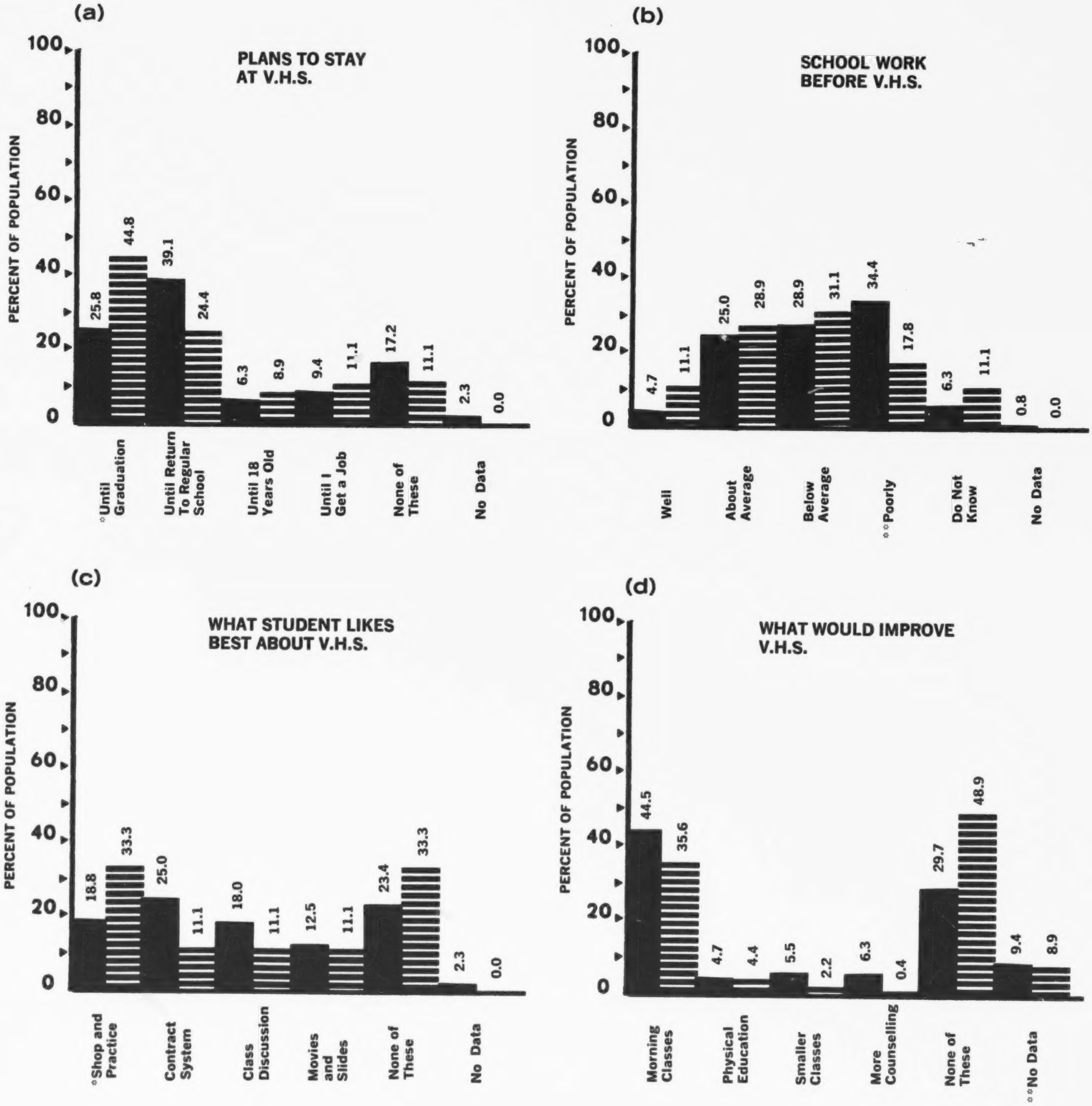
**.05 level

Male, N=128; and Female, N=42.

Figure 35

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL—ETHNIC*



*These items show responses which differed at or beyond the .05 level of significance for the two groups: ANGLO, N=128; and MEXICAN-AMERICAN, N=45.

■ ANGLO ▤ MEXICAN-AMERICAN

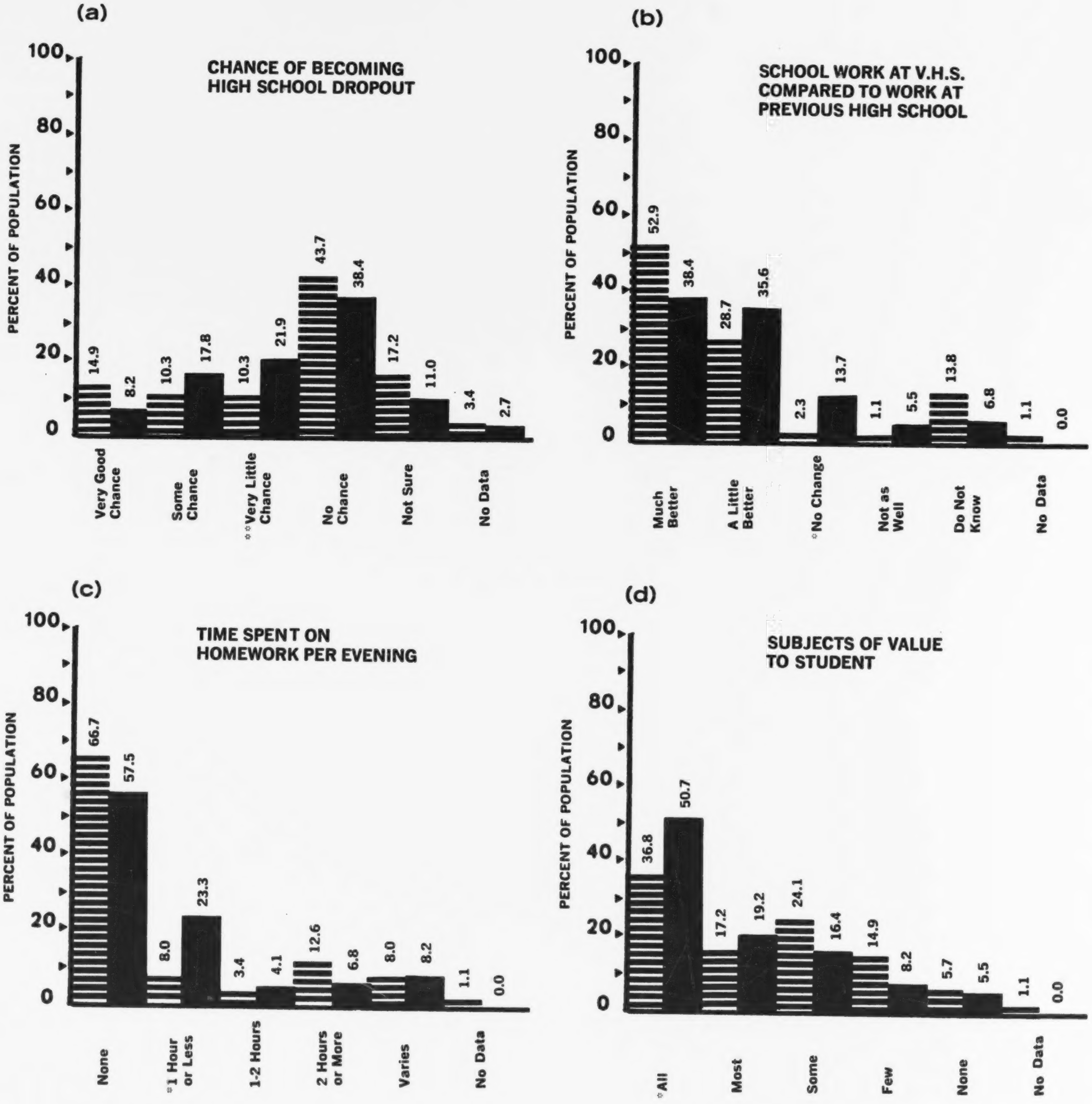
*.01 level

**.05 level

Figure 36

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL—ATTENDANCE*



*These items show responses which differ at or beyond the .05 level of significance for the two groups:

A, N= 87; and B, N=73

▤ ■

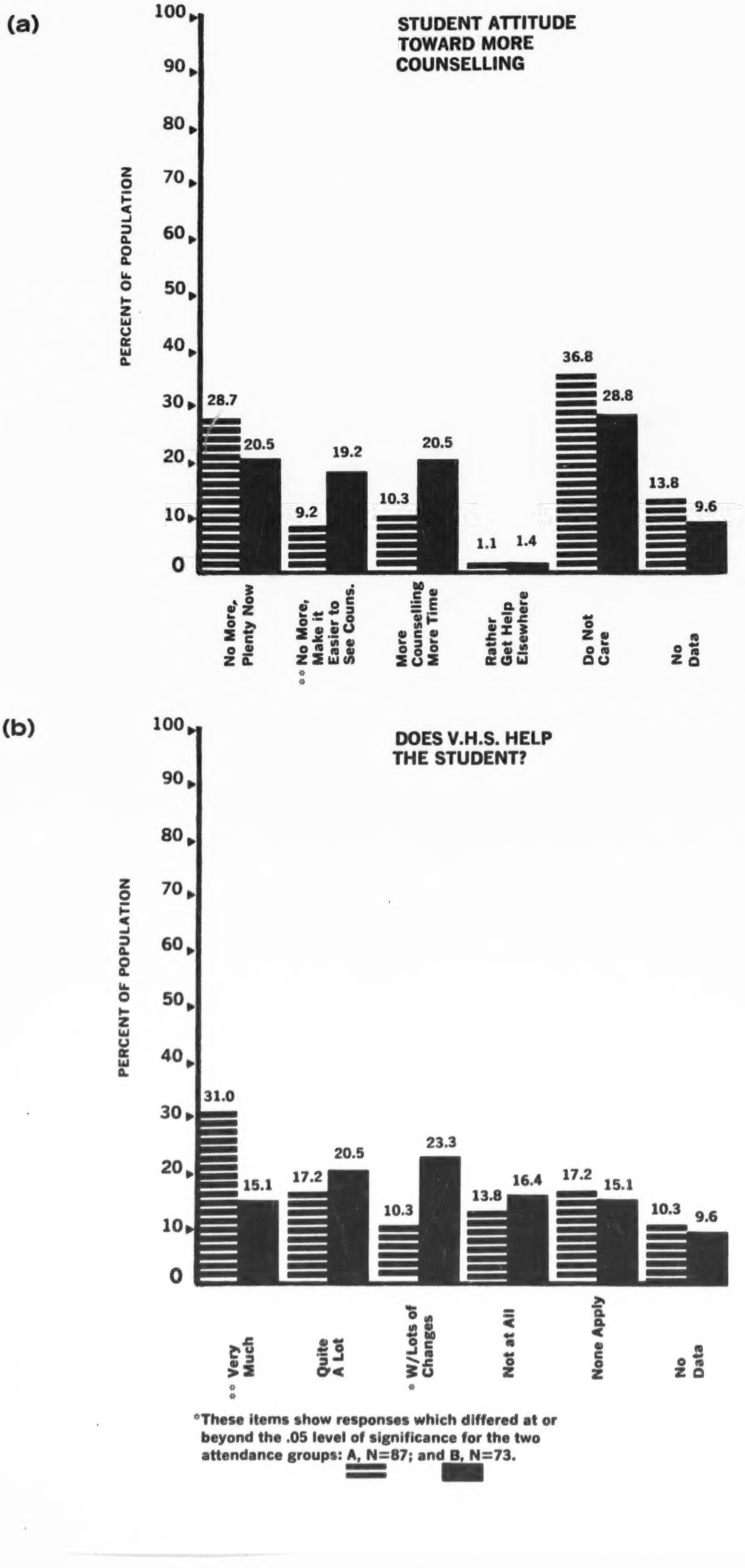
*.01 level

**.05 level

Figure 37

SOCIOLOGICAL QUESTIONNAIRE

STUDENT ATTITUDES TOWARD SCHOOL—ATTENDANCE*



*These items show responses which differed at or beyond the .05 level of significance for the two attendance groups: A, N=87; and B, N=73.

opinion of "very little chance" than did attendance Group A. The differences between the groups was found to be significant at the .05 level. No other significant differences were found.

One-half of the students at Valley High feel they should finish high school in order to get a job or to find a better job. While an equal percentage of Anglo and Mexican-Americans feel they should finish high school to find a better job, a slightly higher percentage of the Mexican-American students felt that it was important to finish in order to find any job. The differences between male and female attitudes towards finishing high school are more pronounced. A significantly greater percentage of males than females feel that finishing school will aid them in finding a better job. A significantly greater percentage of females indicate that they feel they should finish because their parents want them to graduate.

Three-fourths of the students feel that they are doing "much better" or a "little better" in their school work since they have been at Valley High School. This feeling is expressed equally by males and females, and by Mexican-American and Anglo students. Members of Group B, however, have indicated that there has been "no change" in their work.

Of the total population at Valley, 59.7% felt that they were doing below average or poor school work before entering Valley High School. A significant difference in such feelings was found between the Anglo and Mexican-American group; 34.4% of the Anglos reported poor school work prior to referral to Valley High, as compared with 17.8% of the Mexican-Americans.

About 40% of the population expected to earn a grade of "C" for their work at Valley High during the past year. Almost 18% expect an "A" or "B," and slightly more than 15% expect a "D." Three-quarters of the students feel that they have done passing work during this last year at Valley High School. No differences were found in grade expectations between ethnic, sex, or attendance groupings.

Approximately one-half of the tested students feel that they have some trouble with school work but that they can do it. More boys than girls feel that they had no trouble at all and that the work was easy. In the Mexican-American population, 22.2% expressed the belief that they would earn a "D" grade, as compared with 13.3% of the Anglo students who stated that they expected a "D."

Assigned homework is not regularly a part of the Valley High School procedure and therefore it is not surprising that 61.4% of the total population indicates that it spends "no time" doing homework. Attendance Group B, however, indicated that they study, exclusive of school time, one hour or less per day.

In their assessment of Valley High School, over one-half of the students expressed feelings that most or all of the subjects taught at Valley High were of value to them;

22.7% expressed a preference for shop and practice classes. The Mexican-American students expressed a significantly greater preference here than did the Anglos. In the male/female comparison, it was found that shop and practice class preference expressed by males was expectably greater than than expressed by the female students.

Valley High School awards one unit for three contracts of school work. Fifteen contracts are then equal to five units, which is the usual award for one semester's work in a specified subject. Of the total test population, 22.2% indicated that they like the contract system better than other teaching methods they have experienced. A greater proportion of Anglo students indicated that they liked the contract system than did the Mexican-American students. Females prefer this system to all others mentioned.

When asked whether morning classes, physical education, smaller classes, or more counseling, would improve Valley High School, 42% of the students chose morning classes. (At present, Valley High School holds classes from 1.00 P.M. until 5:00 P.M.) Although no significant differences were found when these data were analyzed according to the three sub-groupings (sex, attendance, and ethnic groups), more Anglos chose the morning classes than did the Mexican-Americans--as did more males than females, and more members of Group B than Group A.

Answers to the question, "Do you think continuation school helps students?" indicate that Attendance Group A feels that they are helped "very much," as compared with Attendance Group B, who indicated that the school would help if "it had lots of changes." The predominant Anglo response was that "it helped quite a lot," as compared with the Mexican-American response of "if it had lots of changes." No observable differences were found between male and female responses to all possible choices.

Answers to questions #21, 22, 24, 27, 31, 32, 33, 36, and 38 on the SOC were used to measure the students' attitudes toward work and their future plans. (See Figures 38 - 43, and Table XV, 1, infra.)

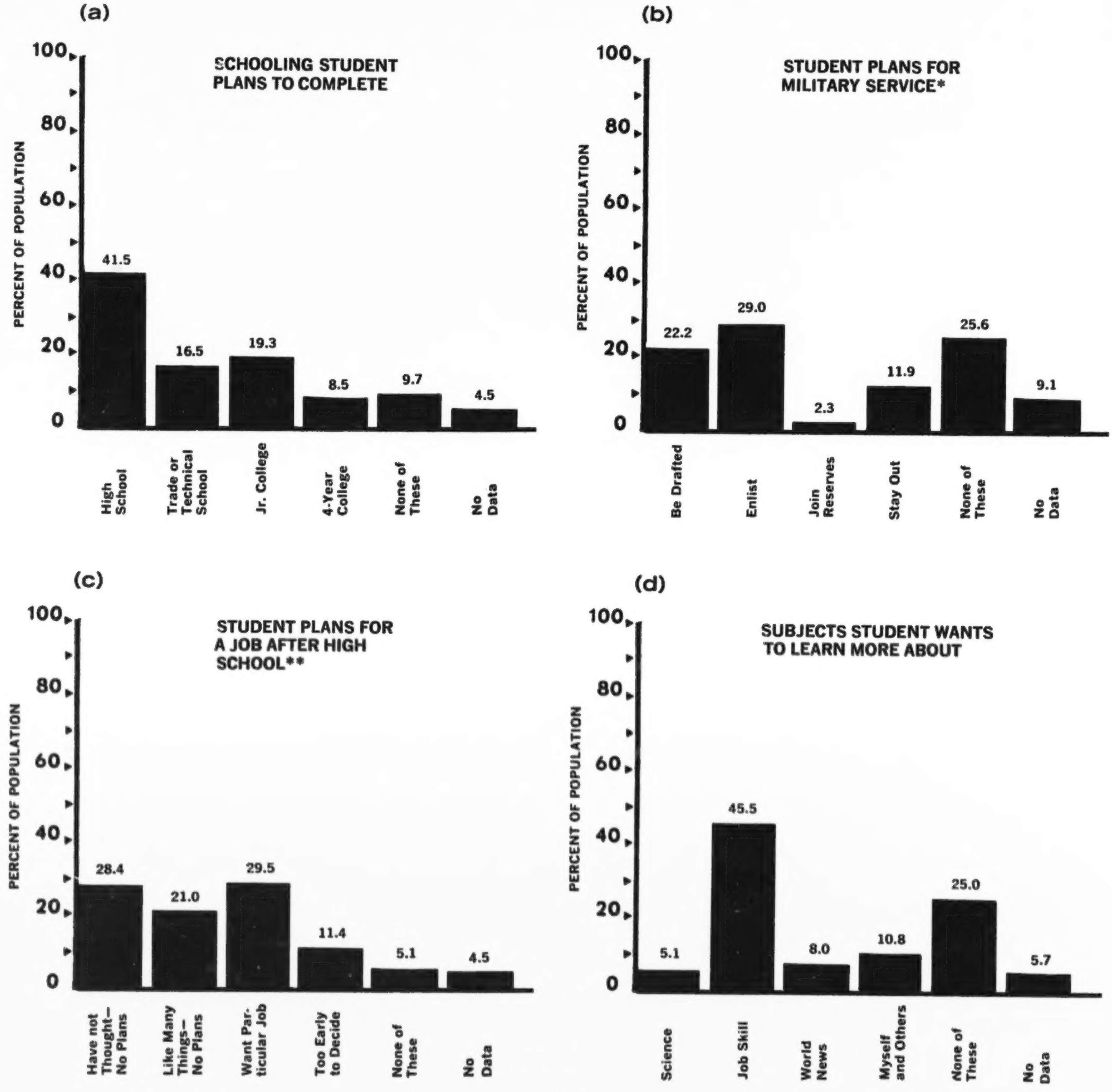
Analysis of data indicating future schooling plans reveals that almost one-half of the students at Valley High School intend to complete high school. An approximately equal number plan further schooling, e.g., trade school, junior college, or a four-year college. More females than males express plans for completing high school, as well as for attending a four-year college. Within the ethnic distribution, slightly more Mexican-Americans than Anglos plan to attend trade or technical schools. A slightly larger percentage of Anglos indicate plans for four-year college.

The majority of males at Valley High expect either to be drafted, or to enlist, or to join the reserves. Slightly more than 16% indicate that they intend to stay out

Figure 38

SOCIOLOGICAL QUESTIONNAIRE

STUDENT PLANS FOR FUTURE WORK AND EDUCATION
TOTAL POPULATION — N = 172



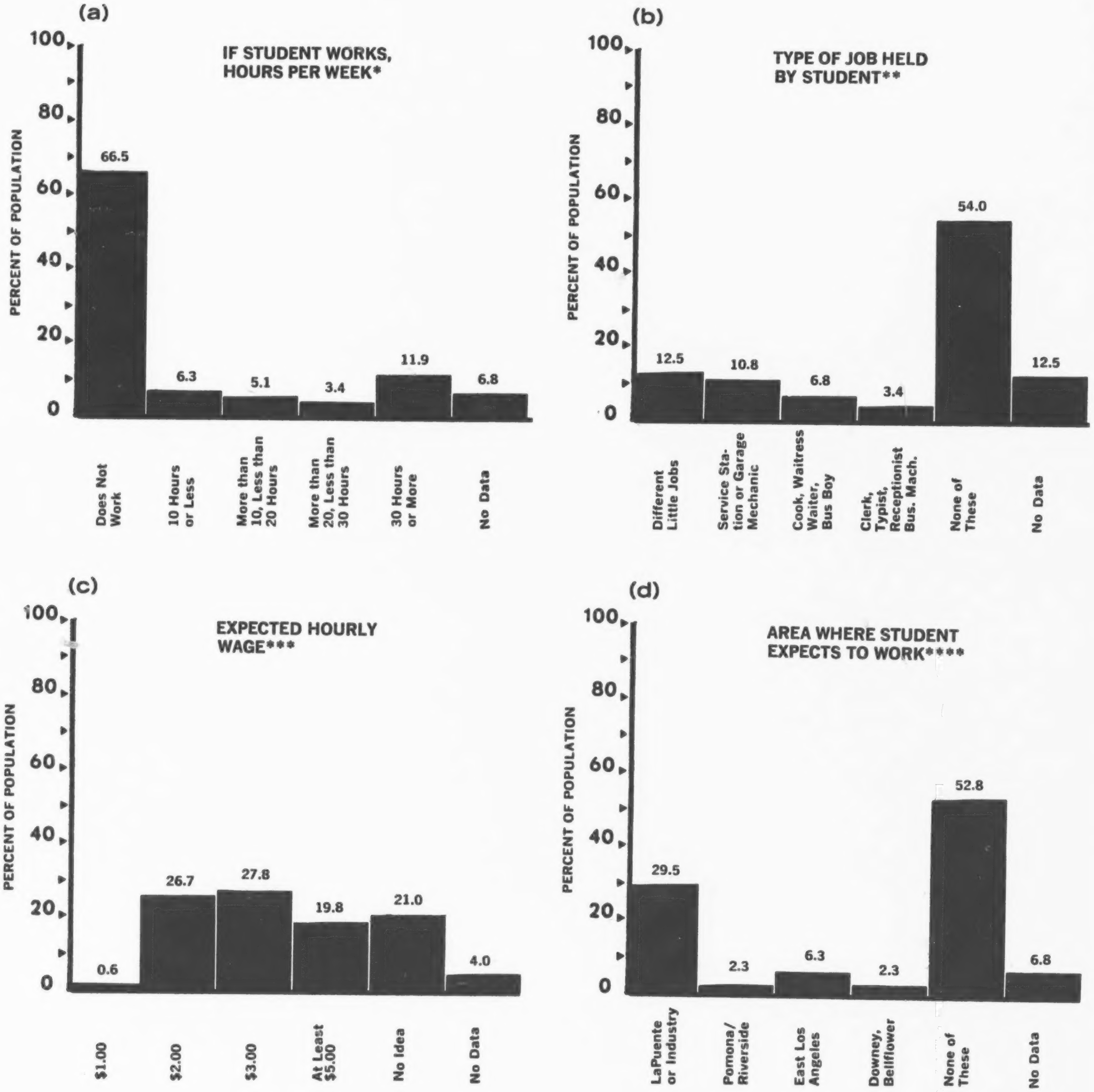
*See Fig. 41a for sex subgroup comparison; Fig. 43a for attendance subgroup comparison, infra.

**See Fig. 42 for ethnic subgroup comparison, infra.

Figure 39

SOCIOLOGICAL QUESTIONNAIRE

STUDENT PLANS FOR FUTURE WORK AND EDUCATION
TOTAL POPULATION — N = 172



*See Fig. 41b for sex subgroup comparison, infra.

**See Fig. 43b for attendance subgroup comparison, infra.

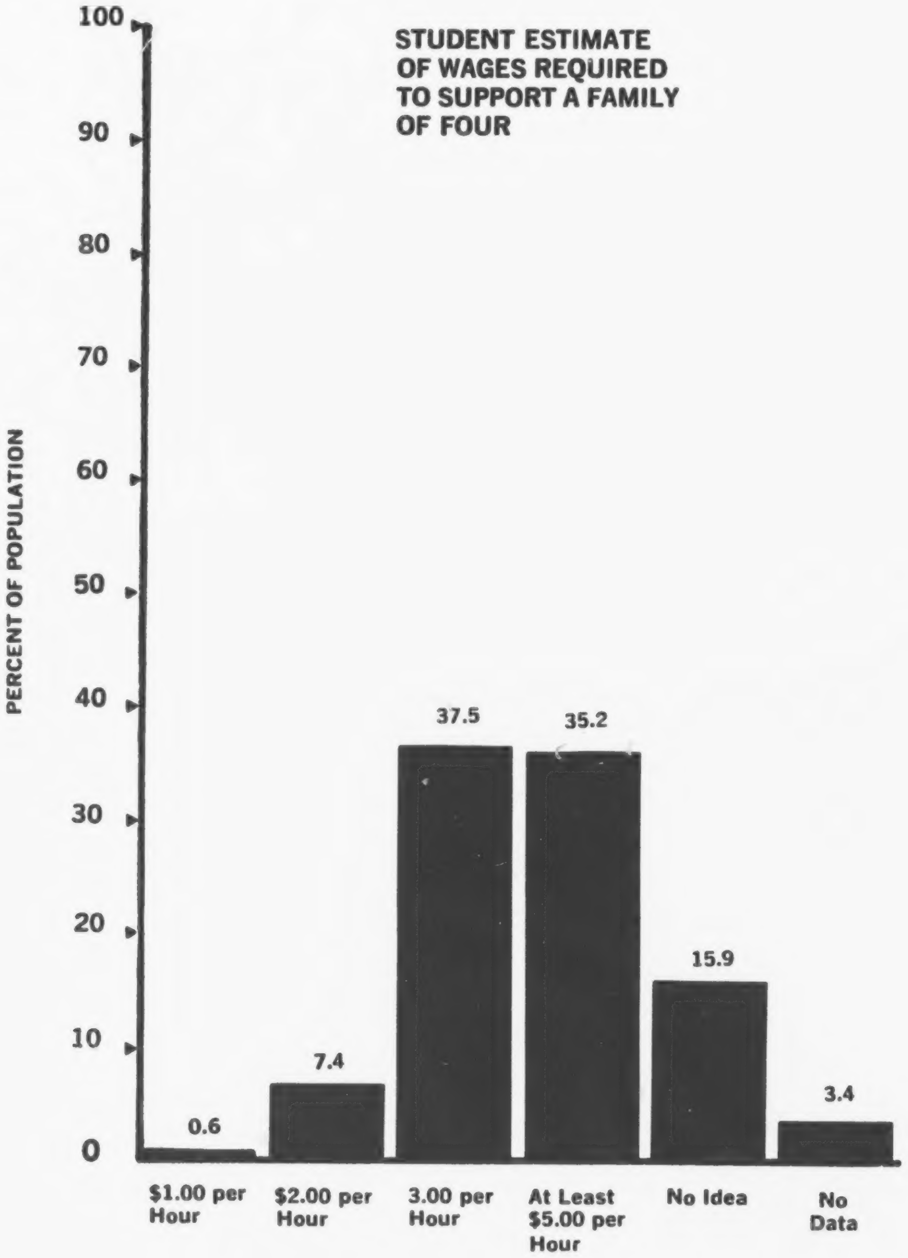
***See Fig. 41c for sex subgroup comparison, infra.

****See Fig. 43a for attendance subgroup comparison, infra.

Figure 40 SOCIOLOGICAL QUESTIONNAIRE

STUDENT PLANS FOR FUTURE WORK AND EDUCATION*

TOTAL POP. N = 172

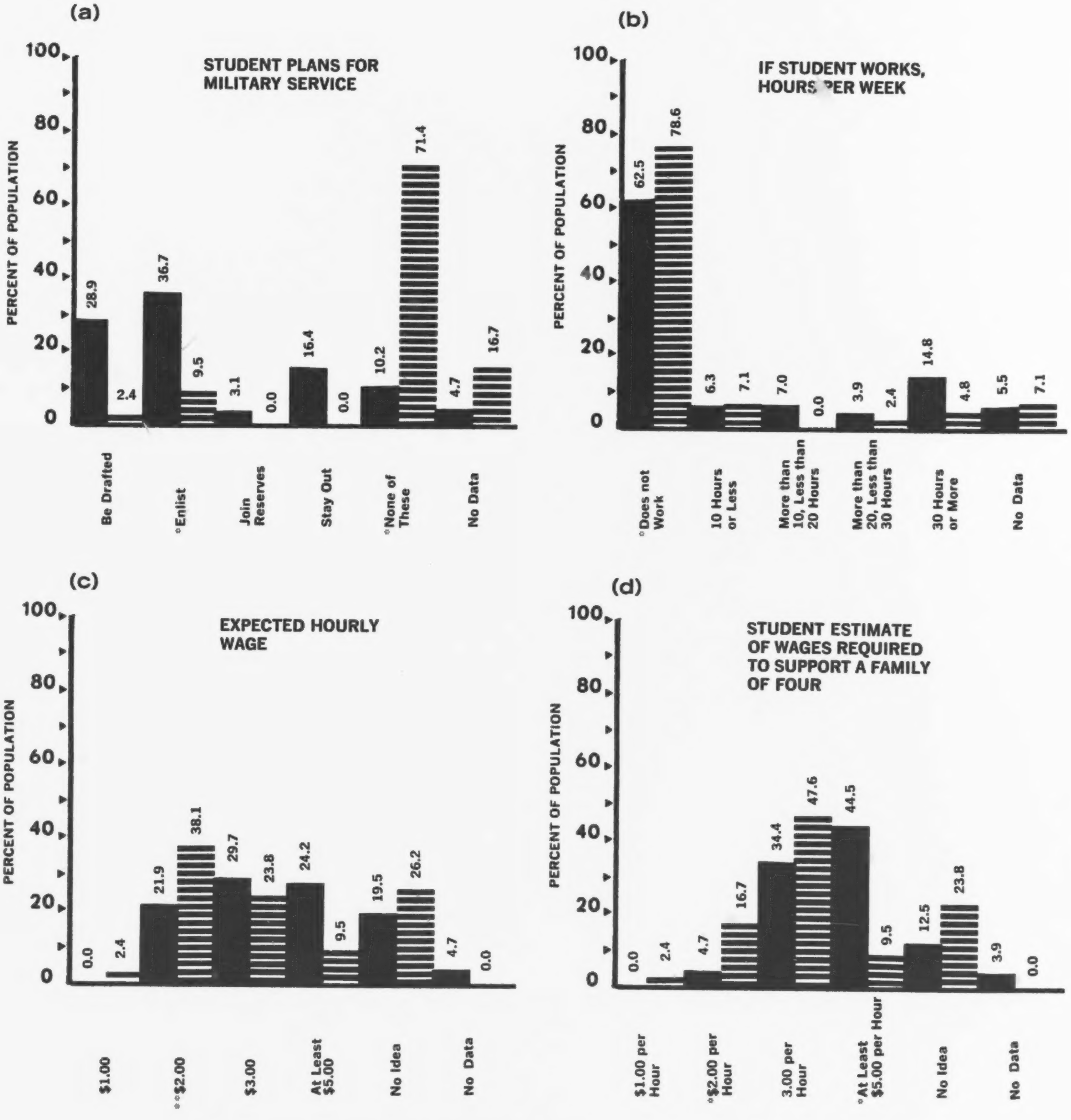


*See Fig. 41d for sex subgroup comparison, infra.

Figure 41

SOCIOLOGICAL QUESTIONNAIRE

STUDENT PLANS FOR FUTURE WORK AND EDUCATION—SEX*



*These items show responses which differ at or beyond the 0.5 level of significance for the two groups: MALE, N = 128; and FEMALE, N = 42.
▇ ▤

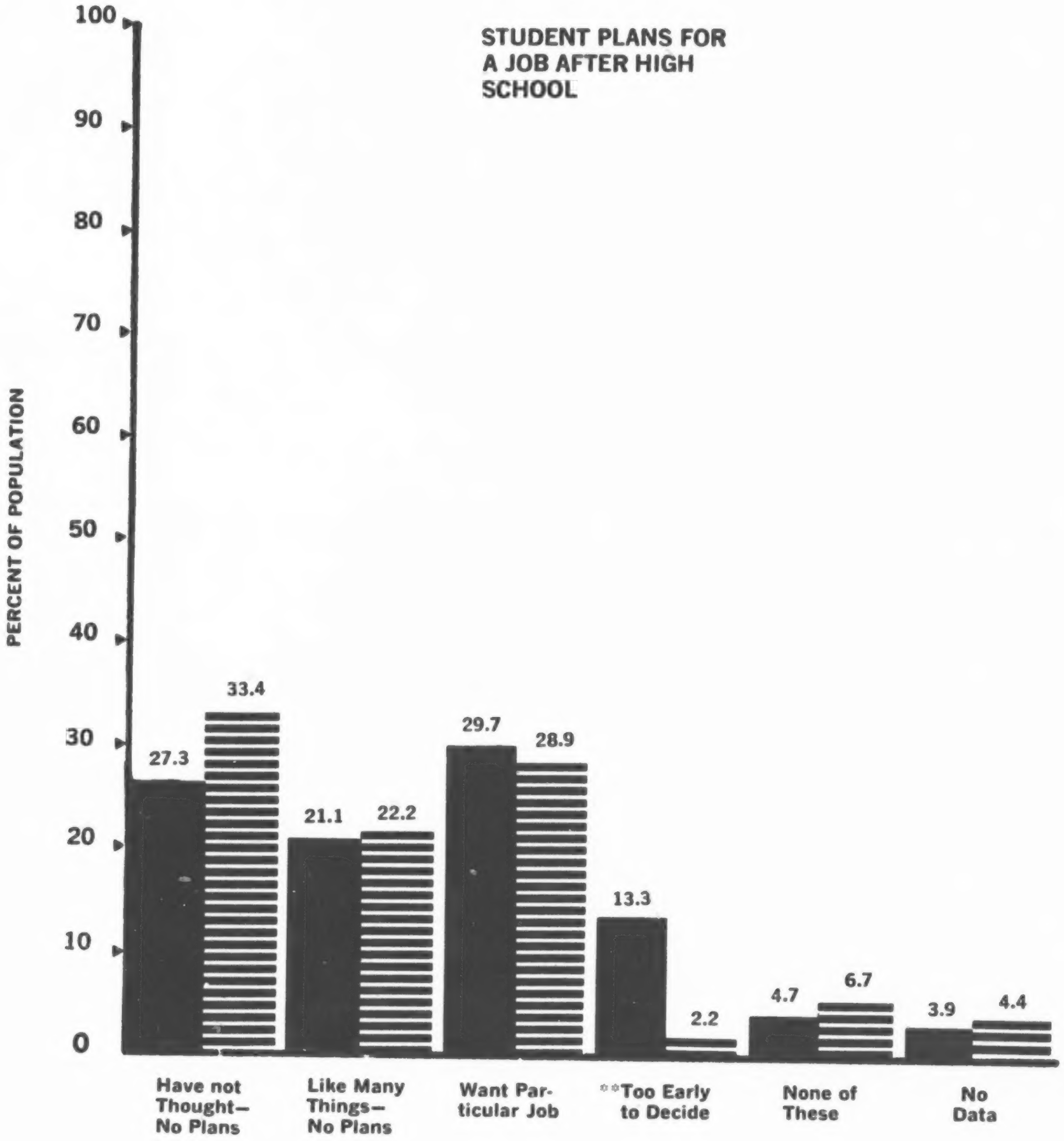
*.01 level

**.05 level

Figure 42

SOCIOLOGICAL QUESTIONNAIRE

STUDENT PLANS FOR FUTURE WORK AND EDUCATION — ETHNIC*

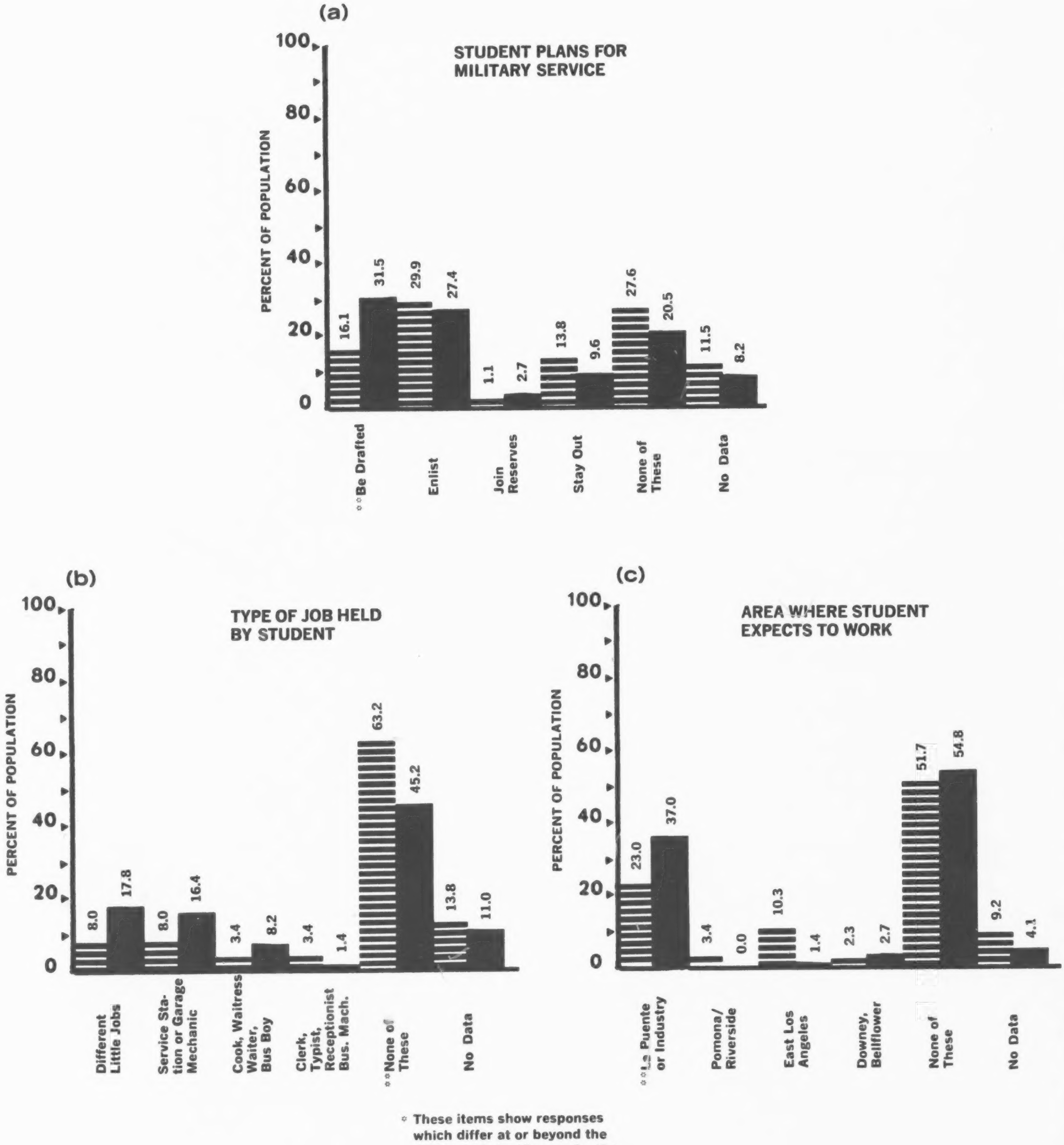

STUDENT PLANS FOR A JOB AFTER HIGH SCHOOL

*These items show responses which differed at or beyond the .05 level of significance for the two groups: ANGLO, N=128; and MEXICAN-AMERICAN, N=45.
■ ☰

**.05 level

Figure 43 SOCIOLOGICAL QUESTIONNAIRE

STUDENT PLANS FOR FUTURE WORK AND EDUCATION — ATTENDANCE*



* These items show responses which differ at or beyond the .05 level of significance for the two groups—A, N = 87., B, N = 73.

**.05 level ▤ ■

of the military. A comparison of Attendance Group A and B indicates that a significantly greater proportion of Group B expects to be drafted. More members of Group A expect to enlist, although this difference between groups was not statistically significant. More Mexican-American students expect to be drafted, and more Anglos indicate a preference for enlisting.

In response to a question regarding job plans after schooling has been completed, over one-half of the student body indicated that they had no particular plans, or felt that it was too early to decide. Analysis reveals that significantly more Anglos feel this way than do Mexican-Americans. Approximately one-quarter of the students indicate that they want a particular job and are taking steps to get it.

The majority of the students at Valley High School stated that they were not working at the time of the testing. Of those who were working, a significantly higher percentage of males than females were employed. More of the employed males than females worked thirty hours or more per week. More members of Group B than Group A were employed and were working thirty hours a week or more. The difference between groups, however, was not significant.

The answers concerning types of jobs held shows the largest percentage, 12.5%, holding "different little jobs." Other job categories were "service station, garage, or mechanic," 10.8%; "cook, waiter, waitress, busboy," 6.8%; and "clerk, typist, receptionist and business machines," 3.4%. No Mexican-American students held jobs in the last category as compared with 4.7% of the Anglos who did.

Hourly salary expectations expressed by the students range from $2.00 per hour to $5.00 per hour, with one-fifth of the students indicating that they would not know how much to expect. A significant number of girls as compared with boys expect to make $2.00 per hour at work they would like to do. A larger percentage of boys express $5.00 per hour expectations. There was no pronounced difference in salary expectations between Anglos and Mexican-Americans, nor between Attendance Groups A and B.

Three-fourths of the students felt that it would be necessary to earn between $3.00 per hour ($120.00 per week) and $5.00 per hour ($200.00 per week) in order to support a family of four. Comparisons of male and female attitudes on this question yielded two significant findings: more girls felt that a family of four would need only an $80.00 per week income ($2.00 per hour); and, more males felt that a $200.00 per week ($5.00 per hour) was a more accurate estimate. No significant differences between ethnic or attendance groups were found.

Within the total population, one-half of the students felt that they would not be working.in La Puente or the surrounding area. Of the remaining half, over one-quarter felt that they would be working in La Puente or the City of Industry, with the remaining fraction working in Pomona, Riverside, Downey, and Bellflower areas. More Anglos indicated that they thought they would be working in the Downey-Bellflower areas than did Mexican-Americans. More females felt they would be working in the La Puente area as compared to males; and more males thought they would be working in the East Los Angeles area. Attendance Group B indicated greater expectations of working in the La Puente area as compared to Group A. More of Group A, however, felt that they would be working in the Pomona-Riverside, East Los Angeles, and Downey-Bellflower areas.

2. Meaning of Words Inventory (MOWI)

The MOWI was designed to identify preconcious attitudes of Valley High School students. In order to do this, the MOWI utilizes the semantic differential process which taps a generalized measure of attitude, and estimates the way a person perceives himself in his environment.

The semantic differential process involves no directly observable right or wrong answers. Responses are made according to the way a subject feels about a particular concept. Such an approach helps to eliminate biased response patterns, and to tap evaluative feelings which exist at the preconscious level.

The MOWI as adapted to Project needs was short and easy to administer individually and in groups; and minimum reading skills were required of the students. The test was made bi-lingual to accomodate the Mexican-American population at Valley High School. In addition, the MOWI was used previously and validated in the Los Angeles County School District. (Strem, 1966, see Table I, infra.)

For ease of reporting, the evaluative statements made by the students of Valley High School have been grouped into eight categories: (1) Instruction and Curriculum, (2) Self-Concept, (3) Authority Relations, (4) Goal Orientation, (5) Moral and Social, (6) Peer Relations, (7) Family Relations, and (8) Adults. (See Figures 44 - 47, and Table XVII, 1, infra.)

(a) Instruction and Curriculum

In this grouping, the stimulus items presented were: "regular high school," "teachers," "continuation school," and, "high school counselor." Evaluation of each item was made five times on the basis of a continuum ranging from: sour to sweet; fair to unfair; bad to good; honest to dishonest; and, pleasant to unpleasant. (See Table XVII, 1, infra.) The most positive score for any variable, e.g., regular high school, was plus fifteen. Such a score would indicate a very "sweet," "fair," "good," "honest," and "pleasant" attitude toward regular high school The most negative score was minus fifteen. Zero score was

Figure 44

MOWI CLUSTER ANALYSIS

TOTAL POPULATION
N = 173

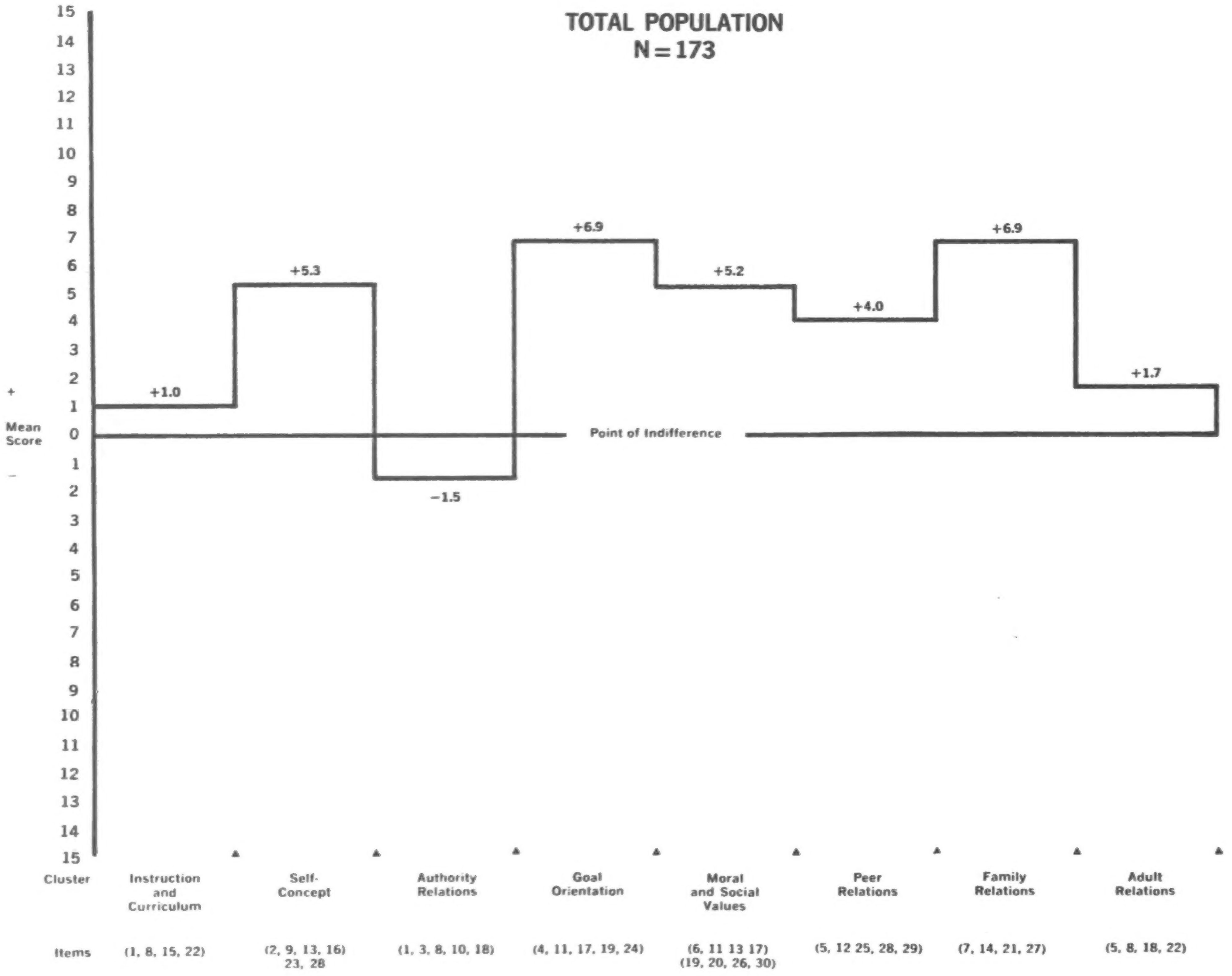


Figure 45

MOWI CLUSTER ANALYSIS BY SEX

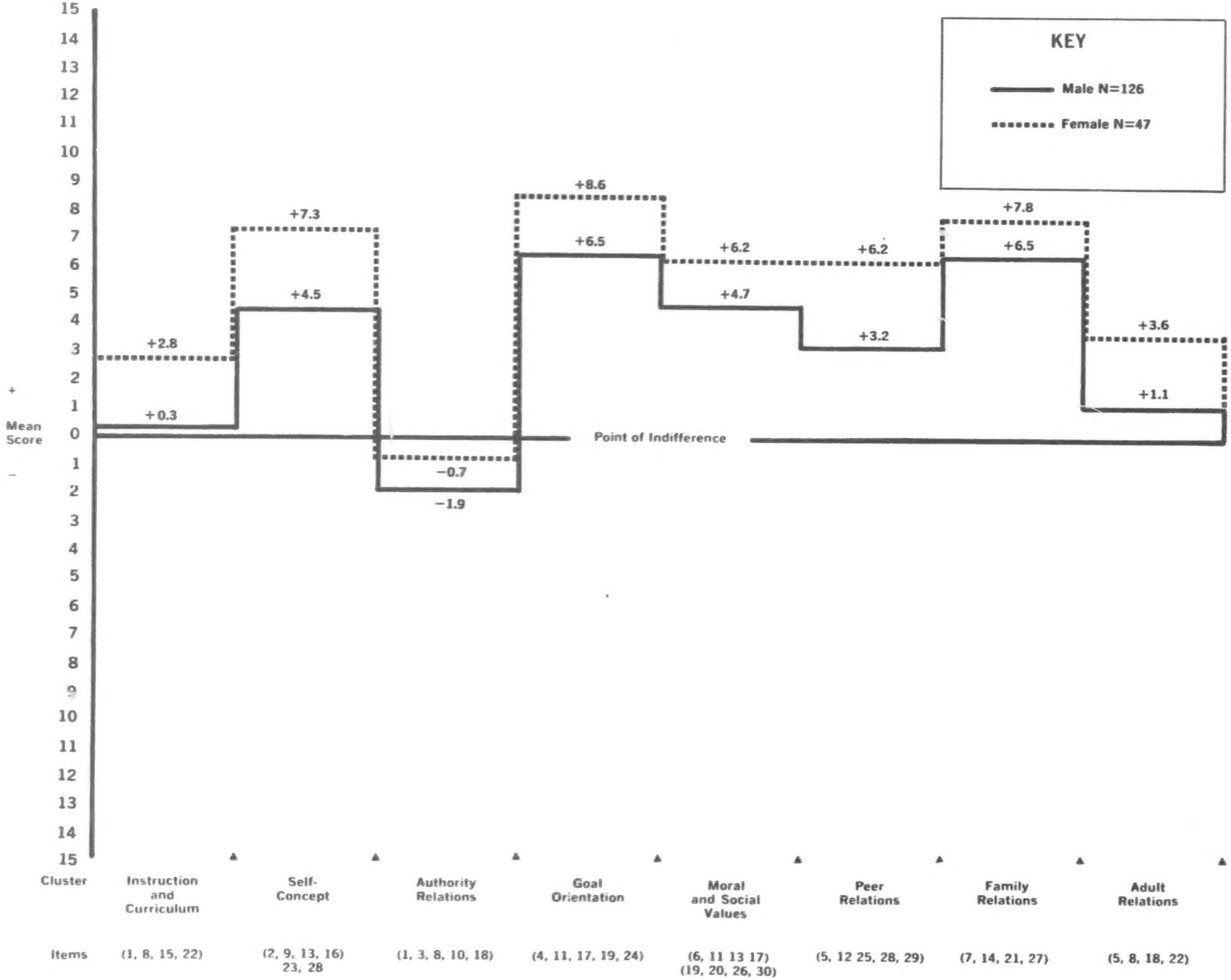


Figure 46

MOWI CLUSTER ANALYSIS BY ETHNIC GROUP

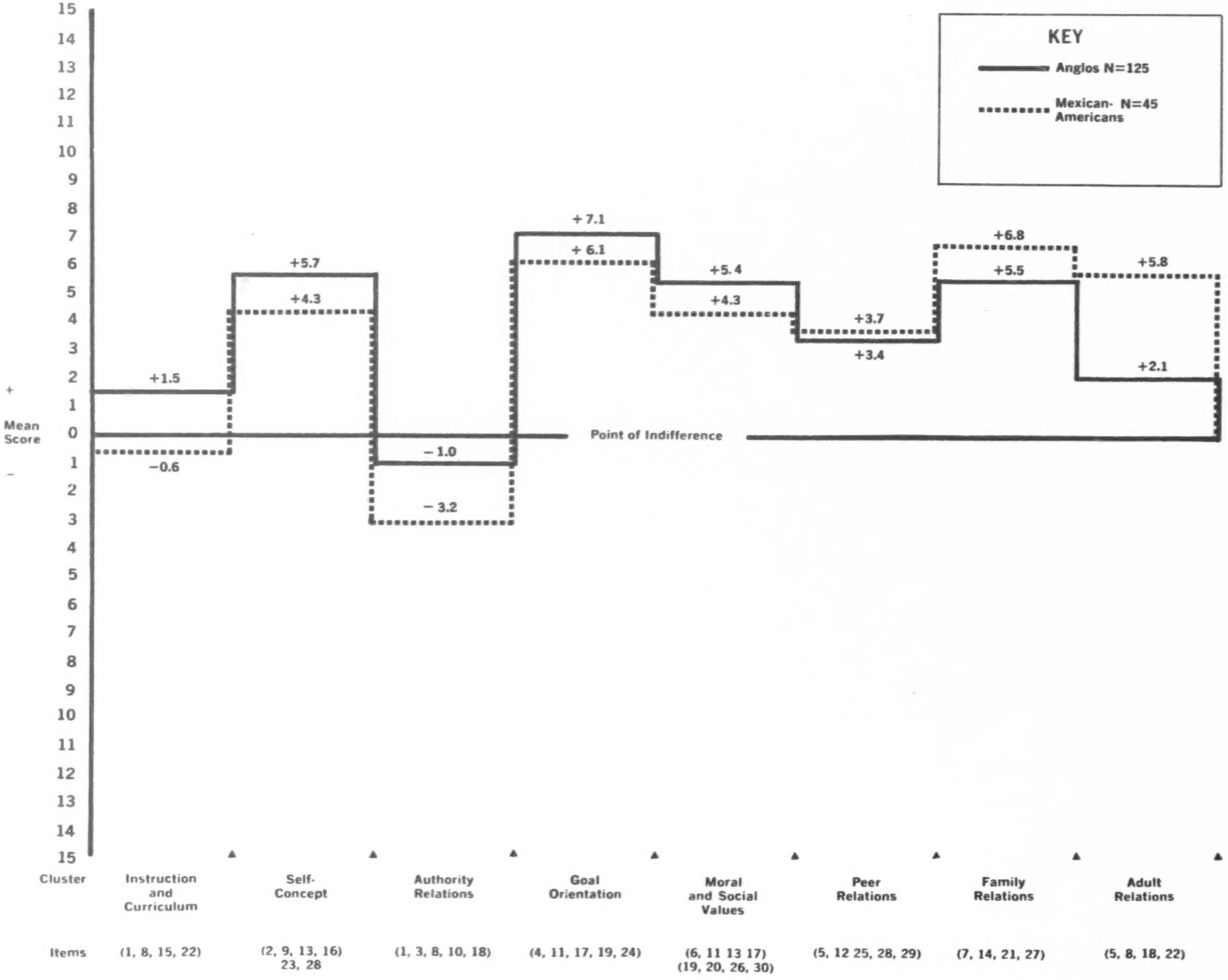
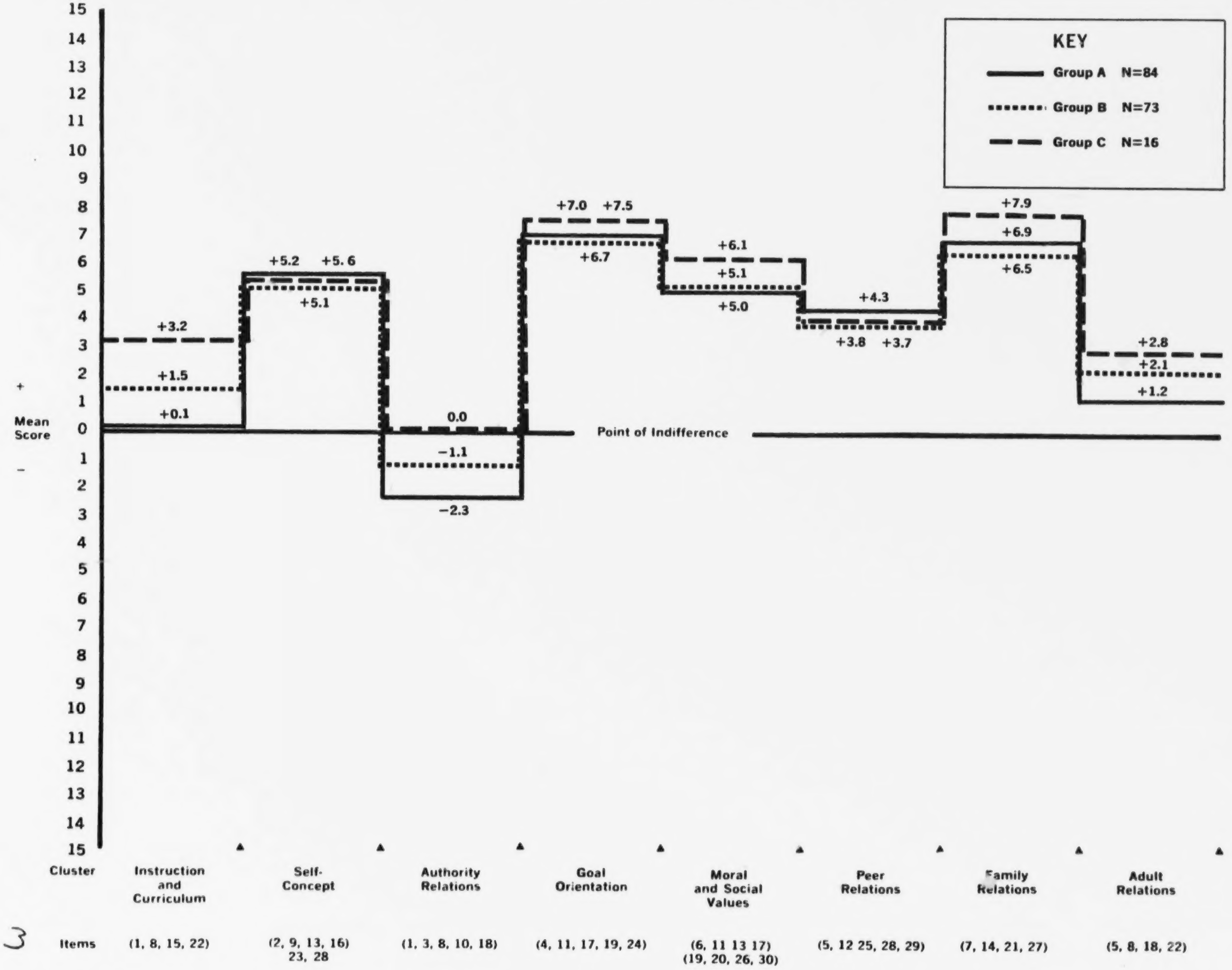


Figure 47

MOWI CLUSTER ANALYSIS BY ATTENDANCE GROUP



3

designated as the point of indifference or of no evaluation. Total population means were computed for each variable within each grouping.

Variables	Total Population Mean
Regular High School	Negative 3.0
Teachers	Positive 1.2
Continuation School	Positive 3.0
High School Counselors	Positive 2.6

Indications are that the Valley High student tends to a slightly positive evaluation of Valley High, his high school counselors and teachers. He expresses a slightly negative attitude towards regular high school.

(b) Self-Concept

Stimulus items presented were: "me," "school abilities," "trying hard," "how I would like to be," "how my class sees me," and, "my best friends."

Variables	Total Population Mean
Me	Positive 4.8
School Abilities	Positive 4.2
Trying Hard	Positive 4.4
How Class Sees Me	Positive 3.1
Best Friends	Positive 7.2
How I'd Like to Be	Positive 8.3

Responses to self-concept items show a fairly positive attitude towards the self on the part of Valley High School students. The variable "How I'd Like to Be" indicates, however, a strong desire to change in the direction of more social acceptability.

(c) Authority

Variables	Total Population Mean
Authority	Negative 0.8
Teachers	Positive 1.2
Regular High School	Negative 3.0
Punishment	Negative 5.5
Grownups	Positive 0.5

A negative attitude towards authority and punishment is apparent. The other variables were included since there is some correlation between them and authority. (See Table XVII, 8, infra.) In general, the students at Valley have negative feelings regarding authority or those elements which, in their minds, are representative of authority.

(d) Goal Orientation

Variables	Total Population Mean
Trying Hard	Positive 4.4
Quitting School	Negative 5.3
Graduating	Positive 9.8
My Future	Positive 7.2
College	Positive 4.2
A Job	Positive 8.1

The data indicated that the students at Valley High School have positive attitudes towards those items representing goal orientation. The students feel that quitting school is "bad." They also hold positive attitudes towards trying hard, graduating, the future, college and a job.

(e) Moral and Social

Variables	Total Population Mean
Cheating	Negative 6.5
Smoking	Positive 3.8
Dating	Positive 10.3
Graduating	Positive 9.8
Trying Hard	Positive 4.4
Job	Positive 8.1
Quitting School	Negative 5.3
Neighbors	Indifference 0.0

Moral and social values can be conceived of as attitude-value systems which predispose an individual towards certain feelings or behaviors. In a sense, they encompass a concept of "right" and "wrong" for the individual. Students at Valley High feel that cheating is "wrong," as is quitting school. For them, smoking, dating, graduating, trying hard and a job are "right." Within the social context, however, they express "indifference" to neighbors.

(f) Peer Relations

Variables	Total Population Mean
Best Friends	Positive 7.2
Most People	Positive 2.6
Classmates	Positive 7.2
Mexican-Americans	Positive 4.8
Anglos	Positive 2.8

The Valley High student reports "good" feelings towards his peers, irrespective of ethnic origin. He feels strongly positive towards his best friends and towards his classmates.

(g) Family Relations

Variables	Total Population Mean
Mother	Positive 9.6
Father	Positive 5.4
My Family	Positive 6.7
Home	Positive 5.7

Feelings towards family, mother, father and home were among the most positive expressed by students.

(h) Adults

Variables	Total Population Mean
Grownups	Positive 0.5
Teachers	Positive 1.2
High School Counselors	Positive 2.6
Most People	Positive 2.6
Neighbors	Indifference 0.0

While the students do not feel a strong positive feeling towards adults, they do tend to regard them more favorably than unfavorably.

3. MOWI and SOC: Aspirations

Six questions on the MOWI and eight questions on the SOC were designated to measure the students' aspirations. Those groupings on the MOWI from which the aspirational items were drawn were compared with appropriate questions from the SOC. For instance, grouping "B" on the MOWI encompasses items relative to the students' self-concept, and grouping "D" encompasses items relative to the students' goal orientation.

The relevant SOC questions are related to these groupings. Aspirational information was thereby derived. The following chart compares the responses to the two tests. (Chart on next page.)

This data suggests that students at Valley High School are attempting to fulfill some of the developmental tasks of adolescence as defined by Havighurst, (1951). (See Table I, infra.) An estimation of self-concept and identity-discovery, insofar as school work is concerned, is provided by those questions which measure "school abilities" and "grade average this year." Plans for economic independence are expressed in those items which indicate student interest in jobs and in learning job skills. Plans for intellectual growth are expressed in those items which indicate student plans to continue schooling at least until graduation from high school and in some cases, through trade school or college. Marriage and family plans are also expressed, although more frequently by females than males.

In general, students at Valley High are not unlike students at most "regular" high schools in that they hold aspirations for further schooling, for jobs and for marriage. Like most male students at "regular" high schools, those at Valley High are concerned with future military plans. Approximately 50% of the female students at Valley High have plans which include marriage in the next five years or less.

ATTITUDE MOWI ITEM	ATTITUDE MOWI RESPONSE	SOC ITEM	SOC RESPONSE
#9 - School Abilities	63.6% Positive	#19-Grade average this year?	57.9% Grades A, B, C.
#4 - College	68.2% Positive	#27-How much schooling plans to get?	75% high school, trade school, jr. college, college.
#19 - Quitting School	67.1% Negative	#20-Drop out before graduating?	57% little or no chance.
#17 - Graduating	83.2% Positive	#34-Why finish high school?	83.6% positive reasons.
#11 - Job	86.1% Positive	#21-Plans for job? 21.0% like many things but have no particular plans.	29.5% want particular job - making plans.
		#36-Learn more about?	45.5% job skills
#24 - My Future	75.1% Positive	#20, 21, 34, 38, Military?	(see above) 53.5% drafted, enlist, or join reserves.
		#18-How long after high school expect marriage?	50.0% girls only: five or less years.

4. MOWI: Teachers

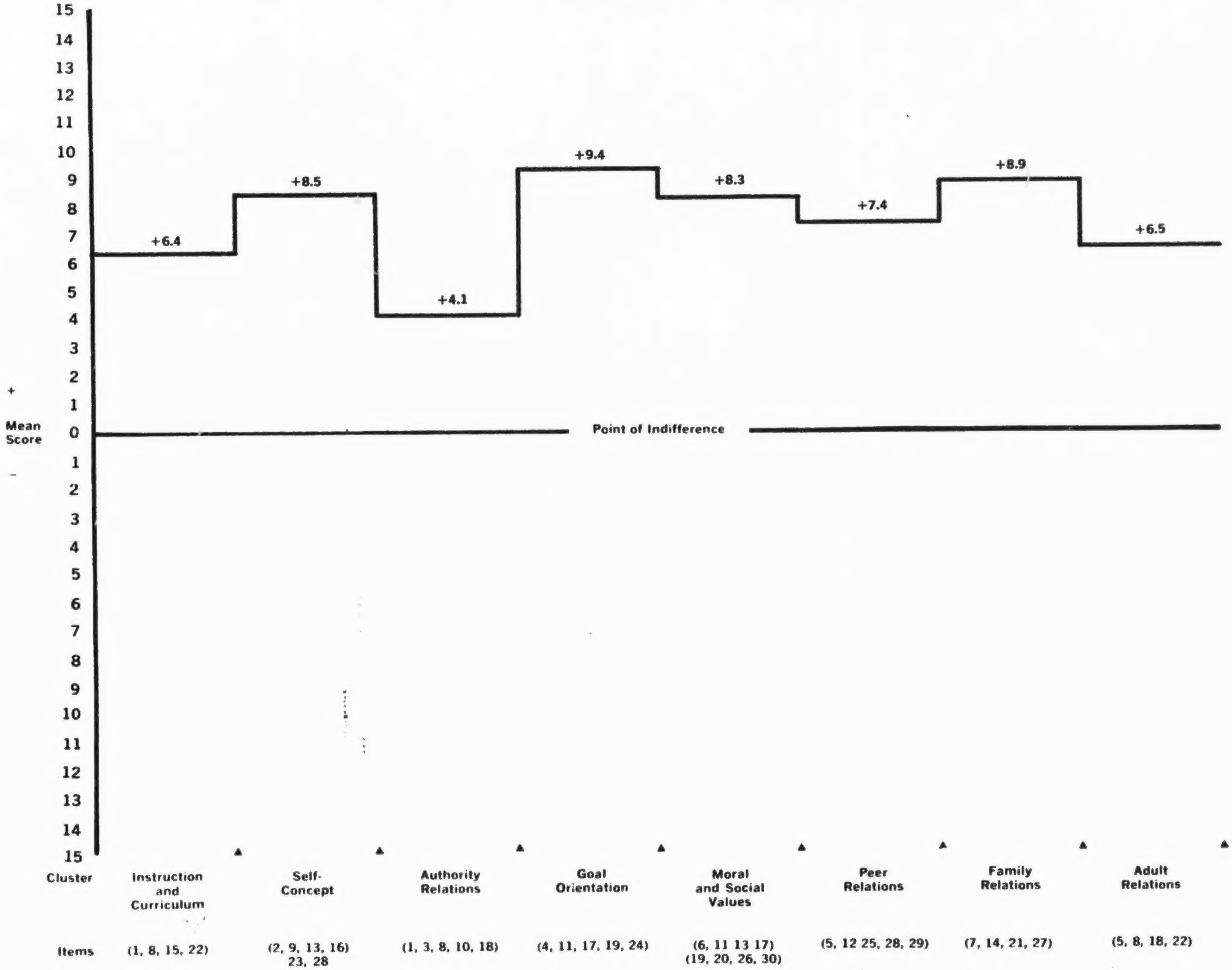
As part of their "in-service training" for the Project's testing phase, teachers at Valley High were asked to answer the MOWI (see Figure 48). Results and comparisons with the students (on all variables) are as follows:

VARIABLES	TEACHERS		STUDENTS
Regular High School	Positive 6.5	....	Negative 3.0
Me	Positive 8.5	....	Positive 4.8
Authority	Positive 4.7	....	Negative 0.8
College	Positive 7.9	....	Positive 4.2
Most People	Positive 7.1	....	Positive 2.4
Cheating	Negative 9.6	....	Negative 6.5
Home	Positive 7.6	....	Positive 5.7
Teachers	Positive 6.9	....	Positive 1.2
My School Ability	Positive 6.9	....	Positive 4.2
Punishment	Negative 3.5	....	Negative 5.5
Job	Positive 10.1	....	Positive 8.1
Classmates	Positive 7.7	....	Positive 2.6
Trying Hard	Positive 7.1	....	Positive 4.4
Mother	Positive 8.9	....	Positive 9.6
Continuation School	Positive 6.1	....	Positive 3.0
How I'd Like to Be	Positive 11.8	....	Positive 8.3
Graduating	Positive 11.0	....	Positive 9.8
Grownups	Positive 6.0	....	Positive 0.5
Quitting School	Negative 8.5	....	Negative 5.3
Dating	Positive 8.5	....	Positive 10.3
Father	Positive 9.8	....	Positive 5.4
High School Counselor	Positive 5.9	....	Positive 2.6
How My Class Sees Me	Positive 6.6	....	Positive 3.1
My Future	Positive 9.3	....	Positive 7.2
Mexican-Americans	Positive 7.4	....	Positive 4.8
Smoking	Negative 3.4	....	Positive 3.1
My Family	Positive 9.1	....	Positive 6.7
Best Friends	Positive 10.1	....	Positive 7.2
Anglos	Positive 4.7	....	Positive 2.8
Neighbors	Positive 7.8	....	Indiff. 0.0

The teachers indicate a more positive attitude towards regular high school and towards authority than do

Figure 48

MOWI CLUSTER ANALYSIS OF FACULTY
(N=15)



the students. Conversely, they tend to take a more negative stand with regard to smoking than do the students. It is noteworthy that when teacher and student responses are in the same direction, in most instances the teachers respond with more extreme scores (both positive and negative) than do the students.

5. Instructional Preference Scale (IPS)

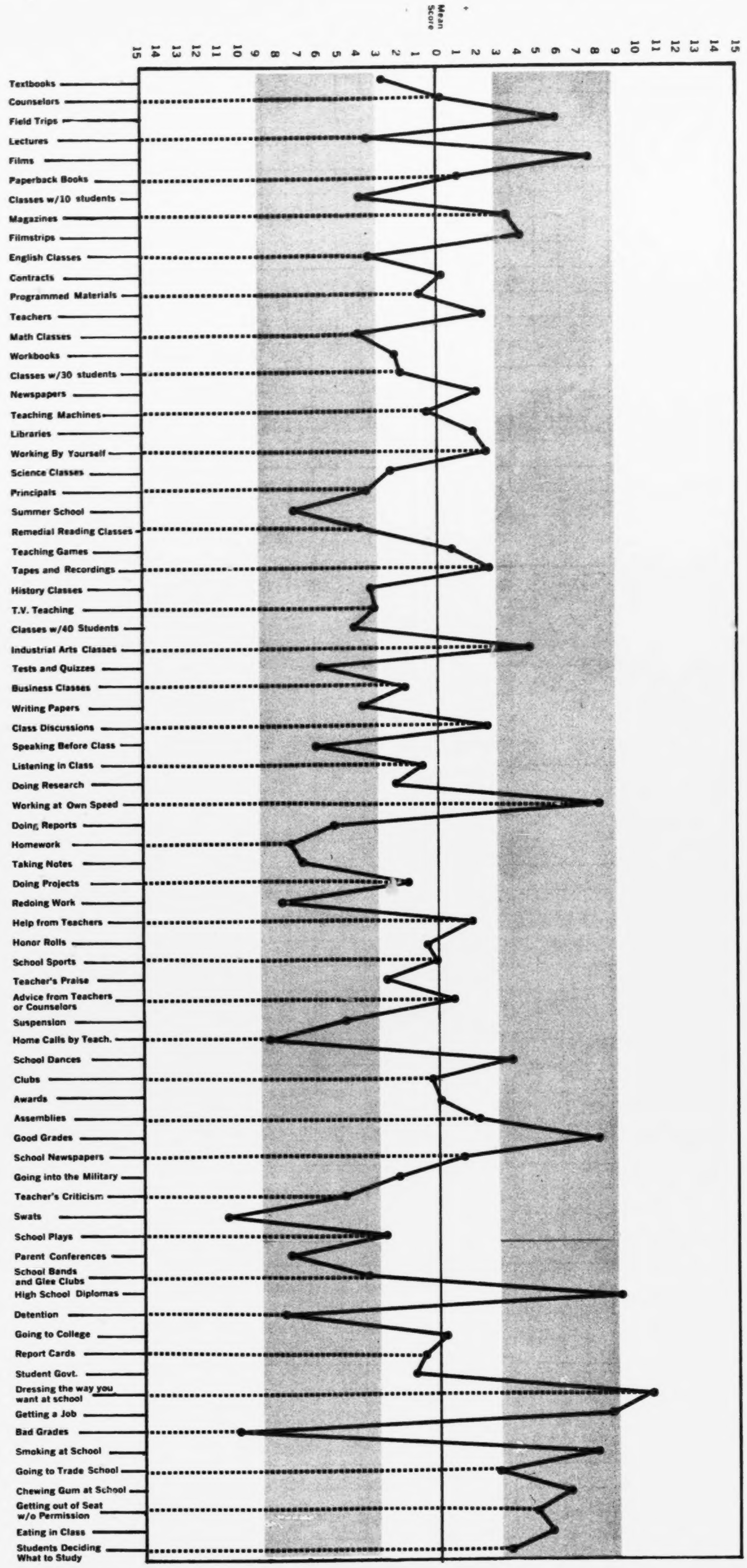
The Instructional Preference Scale (IPS) was designed to ascertain what the students at Valley High School like and dislike about their school experience. Variables were checked by students on a five point scale: "strongly like," "like," "indifferent," "dislike," and "strongly dislike." Seventy-six items were presented which covered methods of teaching, types of classes, student role, student behavior, school activities, and methods of discipline. (See Figure 49.)

Of the seventy-six items presented, seventeen were chosen by the majority of students as "strongly like" or "like."

ITEM	STRONGLY LIKE/ LIKE - TOTAL	INDIFFERENT/DISLIKE/ STRONGLY DISLIKE - TOTAL
Field Trips	62	28
Films	74	18
Magazines	57	37
Filmstrips	58	34
Tapes and Recordings	52	40
Industrial Arts Class	58	33

Figure 49

INSTRUCTIONAL PREFERENCE SCALE—TOTAL POPULATION (N=94)



ITEM	STRONGLY LIKE/ LIKE - TOTAL	INDIFFERENT/DISLIKE/ STRONGLY DISLIKE - TOTAL
Class Discussions	54	39
Working at Own Speed	77	17
School Dances	51	42
Good Grades	72	21
High School Diploma	77	16
Dressing the Way You Want at School	85	8
Getting a Job	77	15
Smoking at School	72	22
Chewing Gum at School	68	26
Getting Out of Seat Without Permission	57	37
Eating in Class	56	36

Twelve items were chosen by the majority of students as "strongly dislike" or "dislike." These were:

ITEM	STRONGLY LIKE/ LIKE - TOTAL	INDIFFERENT/DISLIKE/ STRONGLY DISLIKE - TOTAL
Classes with More Than 40 Students	55	39
Speaking Before the Class	57	35
Tests and Quizzes	57	33
Doing Reports	58	35
Homework	65	28
Taking Notes	68	25

ITEM	STRONGLY LIKE/ LIKE - TOTAL	INDIFFERENT/DISLIKE/ STRONGLY DISLIKE - TOTAL
Home Calls by Teachers	69	25
Swats	78	14
Parent Conferences	67	27
Detention	68	25
Bad Grades	77	16
Summer School	65	29

Of the forty-eight remaining items, responses were distributed as follows:

ITEM	STRONGLY LIKE	LIKE	INDIFFERENT	DISLIKE	STRONGLY DISLIKE
Textbooks	3	22	38	19	21
Counselors	5	32	28	11	14
Lectures	9	16	18	6	9
Paperback Books	9	27	33	13	10
Classes with Less Than 10 Students	13	19	32	17	10
English Classes	4	13	29	26	18
Contracts	12	28	20	16	16
Programmed Materials	7	15	40	14	13
Teachers	8	41	28	5	11

ITEM	STRONGLY LIKE	LIKE	INDIFFERENT	DISLIKE	STRONGLY DISLIKE
Math Class	3	21	19	20	28
Workbooks	6	18	29	19	18
Classes With 30 Students	5	27	22	15	22
Newspapers	6	38	28	12	7
Teaching Machines	4	28	31	14	14
Libraries	9	31	30	12	8
Working By Yourself	15	32	20	15	8
Science Classes	6	20	22	28	16
Principals	4	11	39	19	21
Remedial Reading Classes	3	8	39	27	16
Teaching Games	3	30	23	21	15
History Classes	3	19	23	28	19
Television Teaching	4	13	33	28	14
Business Classes	5	23	28	19	17
Writing Papers	1	16	29	29	17
Listening in Class	3	28	33	10	16
Doing Research	6	19	24	25	18
Doing Projects	6	25	25	19	18
Help From Teachers	4	40	30	9	9
Honor Rolls	12	17	32	15	16
School Sports	14	21	29	12	17
Teacher's Praise	0	22	33	21	16

ITEM	STRONGLY LIKE	LIKE	INDIFFERENT	DISLIKE	STRONGLY DISLIKE
Advice From Teachers or Counselors	5	38	22	11	18
Suspension	5	12	23	24	28
Clubs	12	22	30	13	16
Awards	8	23	35	12	13
Assemblies	15	20	26	9	13
School Newspapers	4	35	34	13	7
Going into the Military	8	23	23	14	25
Teacher's Criticism	2	13	30	22	27
School Plays	5	13	40	16	20
School Bands & Glee Clubs	4	13	36	17	24
Going to College	19	15	29	13	17
Report Cards	9	25	29	12	19
Student Government	8	18	34	18	15
Going to Trade School	16	27	36	7	7
Students Deciding What to Study in Class	24	23	28	10	7

As the above demonstrates, the largest proportion of answers fall within the "indifferent" category. There are some items, however, to which students responded somewhat more positively than negatively; and conversely, some to which they responded somewhat more negatively than positively.

More Positive Responses:

Counselors
Lectures
Paperback books
Classes with less than 10 students
Contracts
Teachers
Newspapers
Libraries
Working by yourself
Help from teachers
School sports
Advice from teachers or counselors
Clubs
Awards
Assemblies
School Newspapers
Going to trade school
Students deciding what to study in class

More Negative Responses:

Textbooks
English classes
Math classes
Workbooks
Science classes
Remedial reading classes
School plays
School bands & glee clubs
Student government
Principals
History classes
Television teaching
Business classes
Writing papers
Doing research
Teacher's praise
Suspension
Going into the military
Teacher's criticism

B. Evaluation of the Students by "Others"

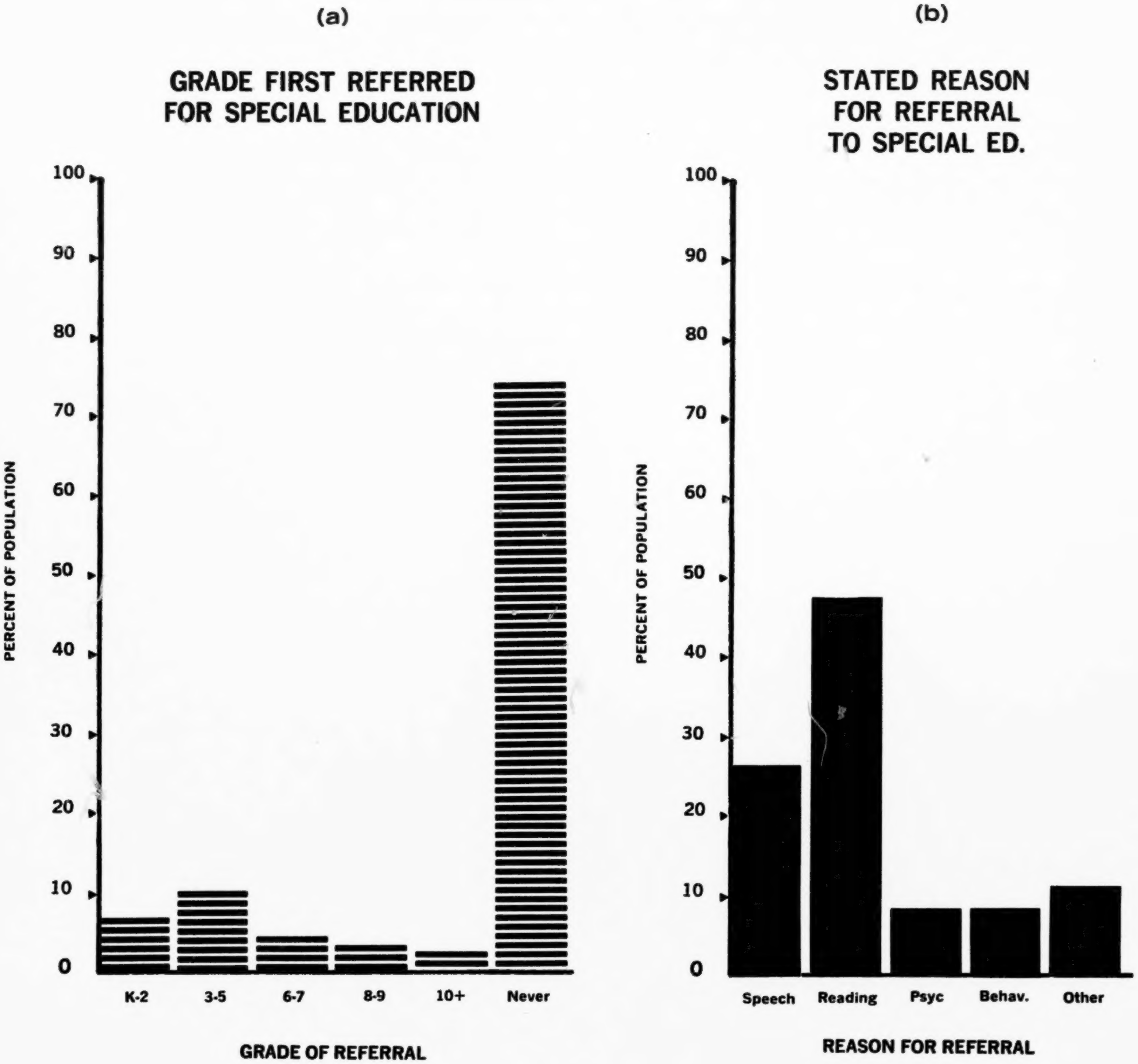
1. The Recorded Historical Information (RHI)

In an attempt to assess what "others," i.e., teachers, counselors and former schools, think of Valley High School students, the staff used specific information gathered from the students' cumulative folders. The Recorded Historical Information (RHI) was designed for this purpose; and questions #16, 17, 18, 23, 24, 25, and 26 were selected as those which provide the most meaningful data. (See Figures 50 - 52, and Table XIV, 1, infra.)

Although many expressions of remedial need were indicated by the former grade school teachers of Valley High School students, only 25% were referred for special education classes. Of this 25% approximately one-half were referred for remedial reading, and one-fourth for remedial speech. (See Figure 50.)

Approximately one-quarter of the students received their first "F" grade between kindergarten and seventh grade; most received it between kindergarten and fifth grade. Of the remaining students, over one-half received their first "F" between the eighth to ninth grade. The general trend at the eighth to ninth grade level, however, was not a single grade of "F" but rather a cluster of "F's." (See Figure 51.) This suggests that at this level, past academic deficiencies become operative, or that adjustment to adolescence proves overwhelming to some students.

Figure 50



(a)

GRADE FIRST REFERRED FOR SPECIAL EDUCATION

(b)

STATED REASON FOR REFERRAL TO SPECIAL ED.

Figure 51

GRADE STUDENT RECEIVED FIRST "F"

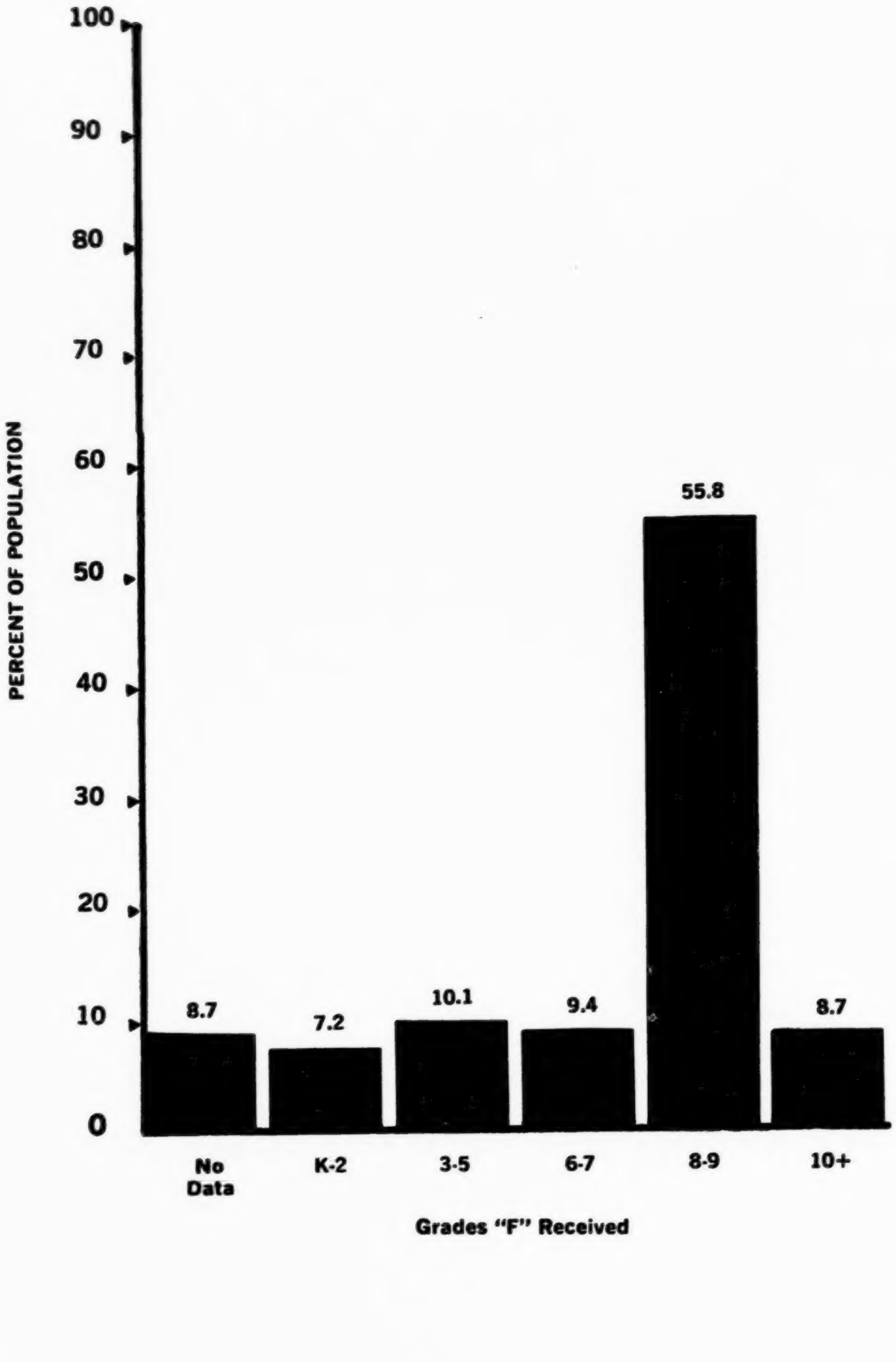
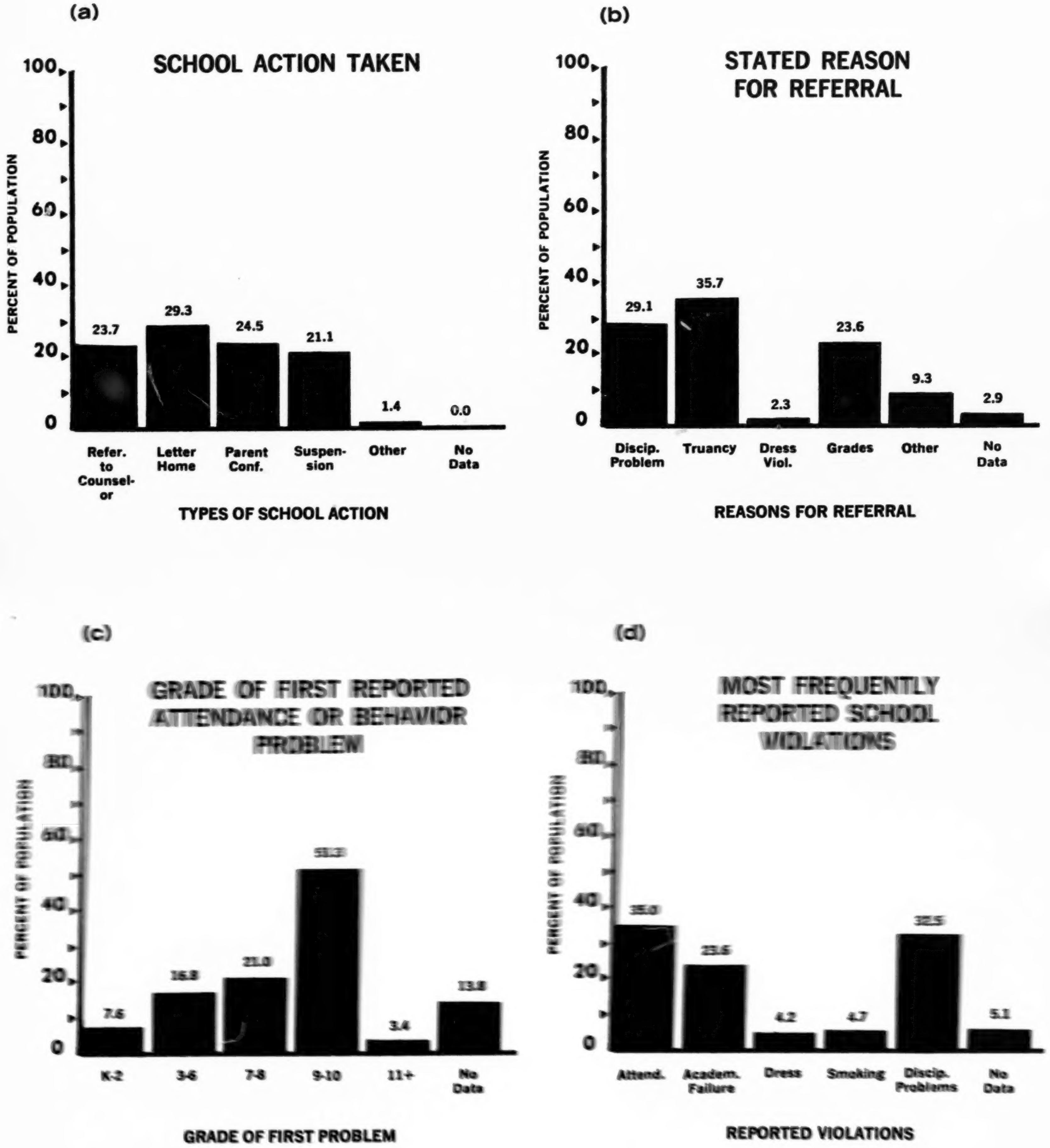


Figure 52


(a) SCHOOL ACTION TAKEN

(b) STATED REASON FOR REFERRAL

(c) GRADE OF FIRST REPORTED ATTENDANCE OR BEHAVIOR PROBLEM

(d) MOST FREQUENTLY REPORTED SCHOOL VIOLATIONS

Further analysis reveals a fairly strong relationship between the grade of first "F" and the first reported attendance or behavior problem. (The correlation for these two items was .474 at .01 significance.) One-fourth of the students experienced their first grade of "F" between kindergarten and seventh grade; the same percentage also experienced their first attendance or behavior problem at that time. One-half of the students received the first "F" at the seventh to ninth grade level; and, an equal percentage had their first attendance and/or behavior problems at the same time.

The most frequently reported school violation was that of attendance. Discipline problems were also reported frequently. These two factors account for approximately two-thirds of the reported violations; the remaining one-third consists of academic failure (23.6%), dress violations (4.2%), and smoking (4.7%).

The referring high schools used the following means to handle these violations: letters home, counselor referral, parent conferences, and suspension from school. A significantly greater number of males than females were referred to counselors when a violation occurred. A greater number of females than males, however, report parent conferences as the means of handling school violations.

Analysis of the RHI responses indicates no other significant differences according to ethnic, attendance or sex groupings.

2. Teacher Evaluation Surveys (TES)

During the testing periods, ten of the Valley High School teachers, the principal, and the social worker at Valley responded to the TES which was designed to assess the teachers' evaluations of student behavior during the test period. (See Table XIX, 1, infra.) The responses and their frequencies are indicated below.

MEASURE	TOTAL NUMBER OF EACH RESPONSE	RESPONSE
Cooperation Level of Student	1	Good
	6	Fair
	5	Poor
	1	Resentful
Student Reaction to Unusual Routine	1	Enjoyed it
	7	Tolerated it
	1	Indifferent
	4	Rejected it (left school)
Motivational Value of Reward System	1	High
	6	Some
	3	Little
	2	None
Student Interest in Testing	3	In reasons for testing
	1	In test results
	7	No interest in test purpose
	3	No interest in test results
Student Attendance During Testing	2	No change
	5	Decrease of those tested
	6	Decrease to avoid testing
Classroom Behavior	8	Increase in behavioral disturbance
	3	Increase in cooperation
	2	Decrease in cooperation

In evaluating the above responses, the subjectivity of the TES should be kept in mind. The instrument measures the teacher and staff evaluation of students; it is quite possible, however, that it also reflects individual teacher and staff feelings towards the total testing situation.

III. PRESENT ACADEMIC PERFORMANCE CAPABILITIES

An identification of academic performance capabilities of the student population is required in order to derive the instructional needs of the student. An academic profile can be compared to collected performance requirements; the difference between the two provides a guideline for the development of the projected system.

In order to identify the basic academic performance capabilities of the student population, both scholastic achievement and general aptitudes had to be determined. Scholastic achievement encompasses language, reading, spelling and computation. Performance capability is defined as the tested ability to: use language; comprehend selected reading; spell accurately; comprehend numerical concepts; perform general arithmetical operations; and, reason abstractly. General aptitudes are measured in terms of: verbal aptitude; numerical aptitude; spatial aptitude; form perception; clerical perception; motor coordination; finger dexterity; manual dexterity; and, a general learning aptitude.

The Project has used the Wide Range Achievement Test (WRAT) and the California Achievement Test (CAT) to determine academic skills, and the General Aptitude Test Battery (GATB) to determine the vocational skills of the Valley High School population.

A. The Wide Range Achievement Test (WRAT)

The WRAT is a convenient tool for the study of capabilities in basic school subjects such as reading (word recognition and pronunciation), written spelling and arithmetic computation. Three types of interpretation may be used in reporting WRAT results: grade ratings, which are based on norms derived from the actual mean grade levels of children in different age groups; standard scores, which are used to represent the rate of learning rather than the level of achievement reached; and, percentiles or rankings. (See Figures 53 - 56.) The following chart reports WRAT results for the Valley High test population in terms of the above three methods of interpretation.

1. Grade Placement, Standard Scores and Percentiles for Total Valley High School Sample:

Section	Mean Grade Placement	Mean Standard Score*	Percentile
Reading	7.8	94.1	34
Spelling	6.0	83.6	13
Arithmetic	5.3	80.3	9

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*According to the WRAT Manual, a standard score of between 80 and 89 is classified as low average, and a score of 90 to 109 is classified as average.

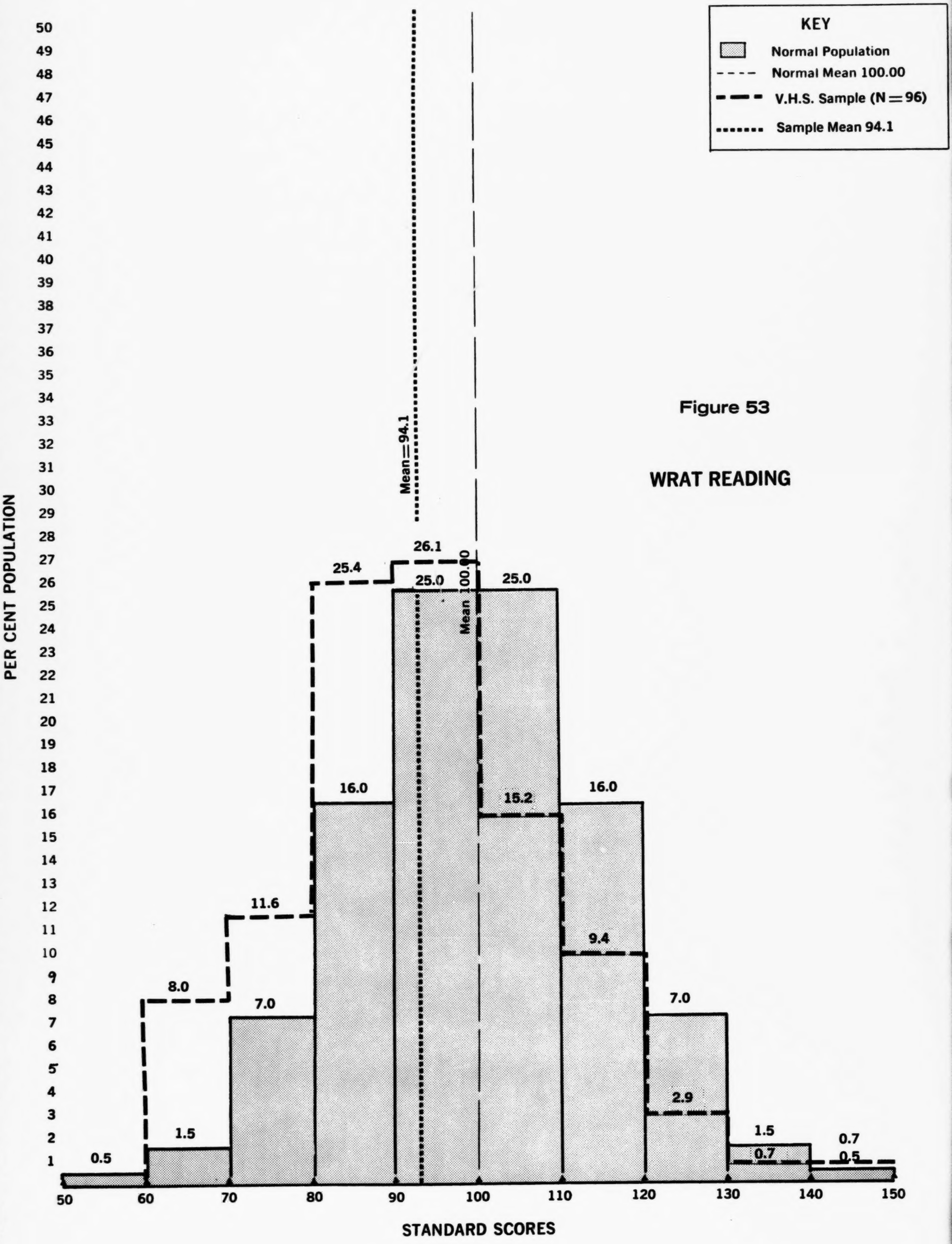


Figure 53

WRAT READING

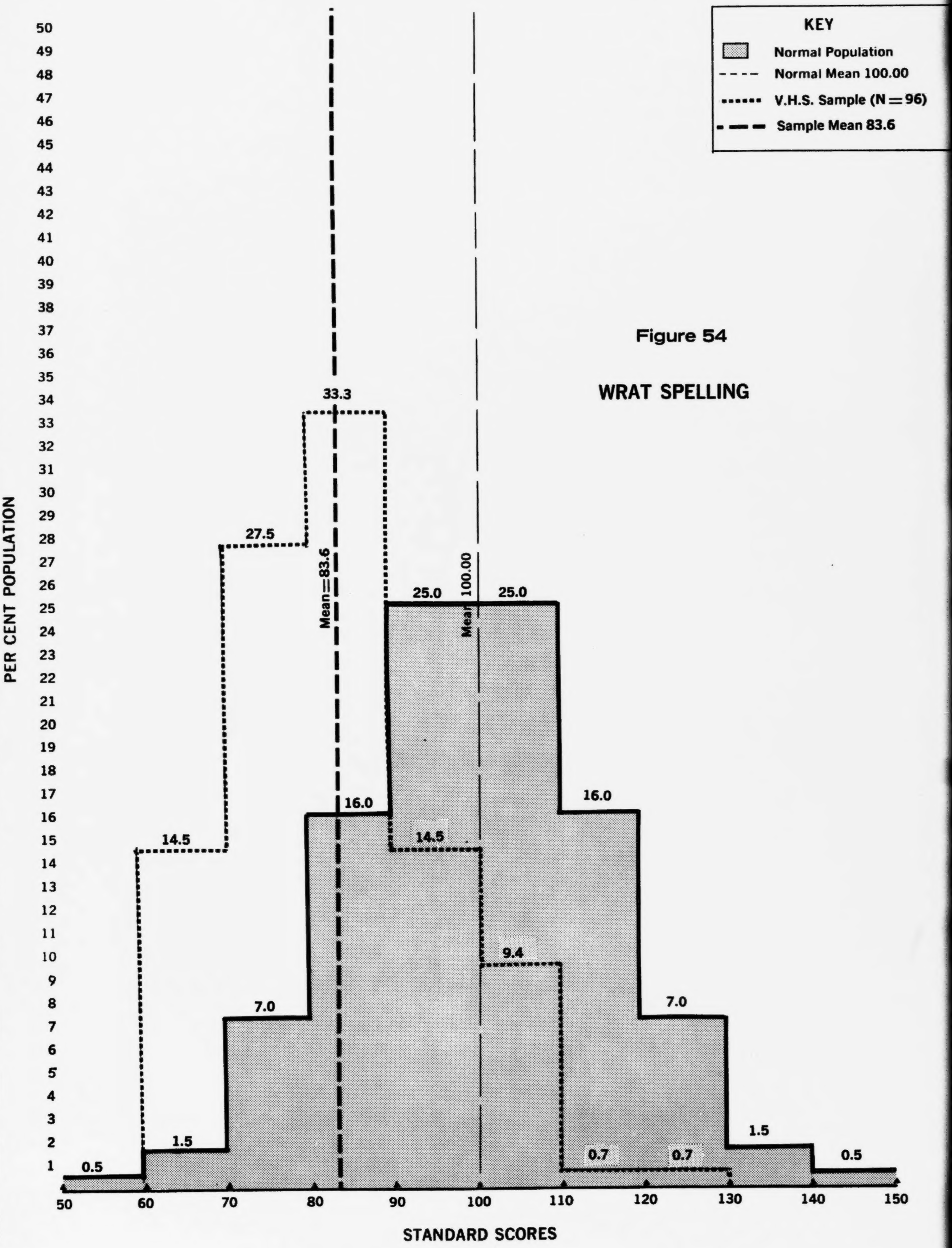


Figure 54

WRAT SPELLING

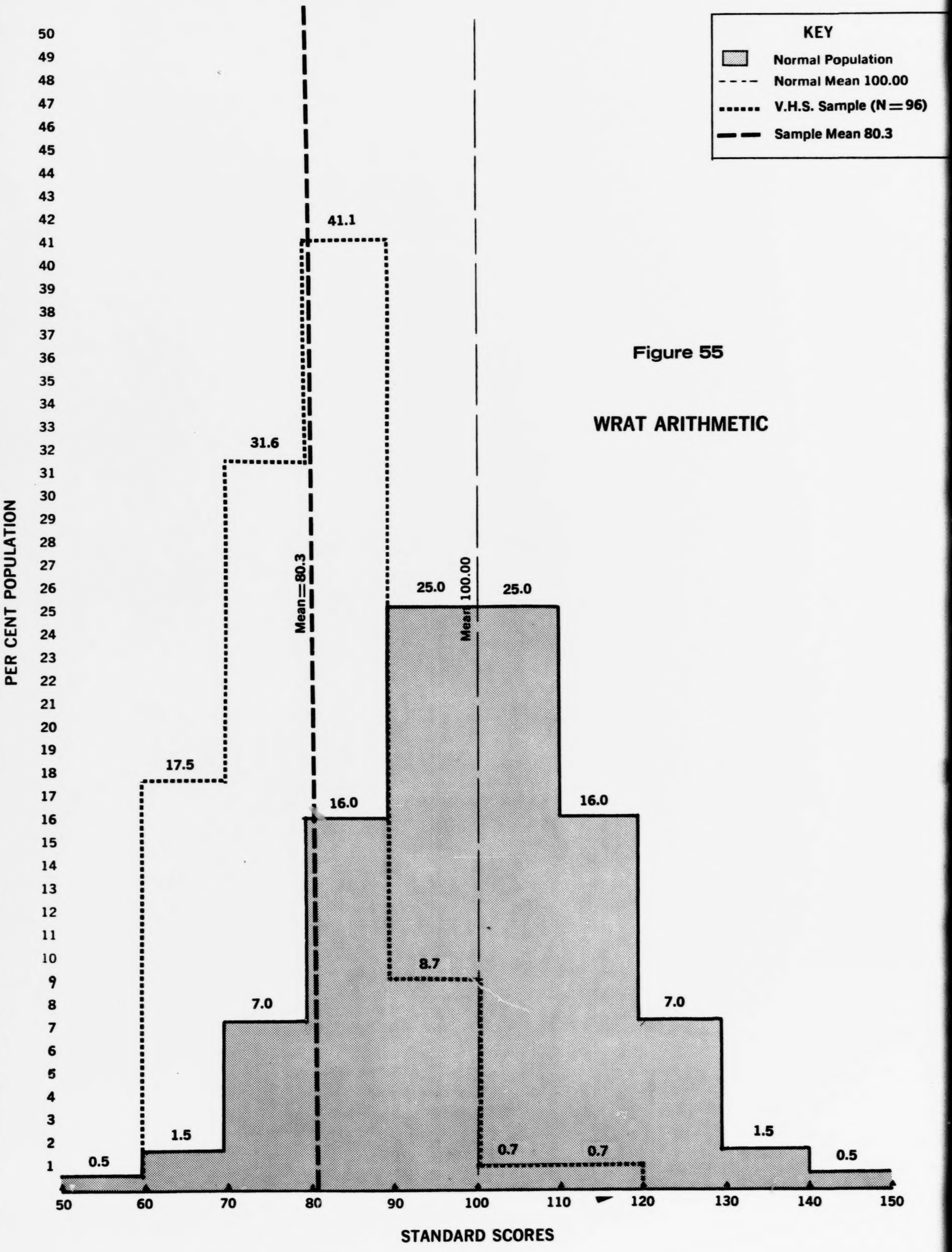
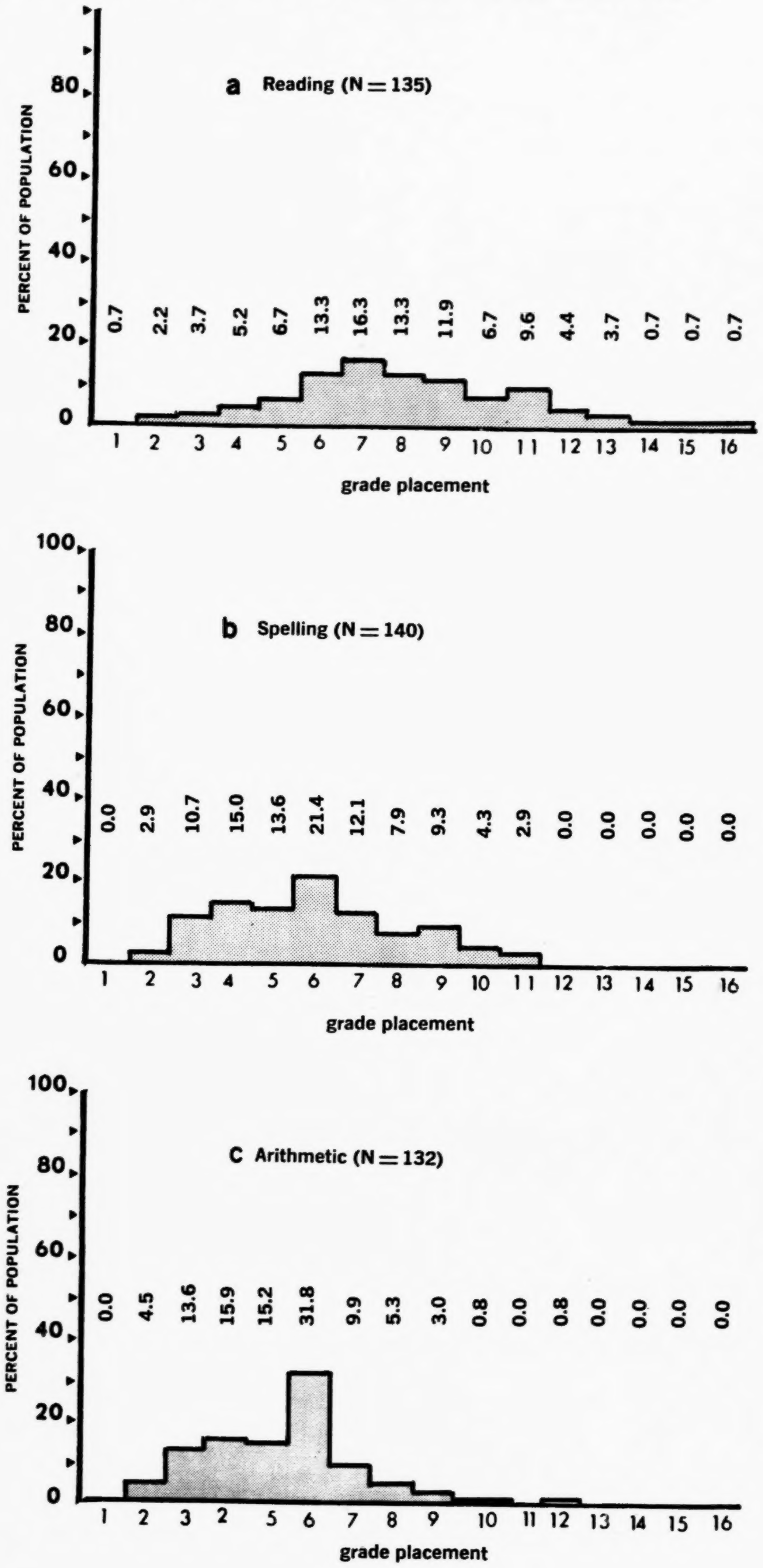


Figure 55

WRAT ARITHMETIC

Figure 56 WRAT GRADE PLACEMENT DISTRIBUTIONS



Comparisons within the Valley High population on the basis of ethnic, sex and attendance groupings are as follows: (See Figures 57 - 59.)

Section	Grouping	Mean Standard Score	Mean Grade Placement	Percentile
Reading	Anglo*	97.1	9.1	42
	Mexican-American	87.8	7.1	19
Spelling	Anglo**	84.7	6.7	16
	Mexican-American	82.1	5.7	12
Arithmetic	Anglo***	81.7	6.1	12
	Mexican-American	76.9	5.1	6
Reading	Male	94.6	8.5	37
	Female	92.8	8.2	32
Spelling	Male	83.2	6.4	14
	Female	84.5	6.6	16
Arithmetic	Male	80.8	5.9	10
	Female	78.9	5.5	8
Reading	Group A	94.6	8.4	37
	Group B	83.4	8.5	14
Spelling	Group A	83.7	6.3	14
	Group B	83.4	6.4	13
Arithmetic	Group A	80.4	5.8	9
	Group B	79.8	5.7	9

	X^2	df	Significance Level
*	16.10	5	.01
**	10.8	4	.05
***	13.8	3	.01

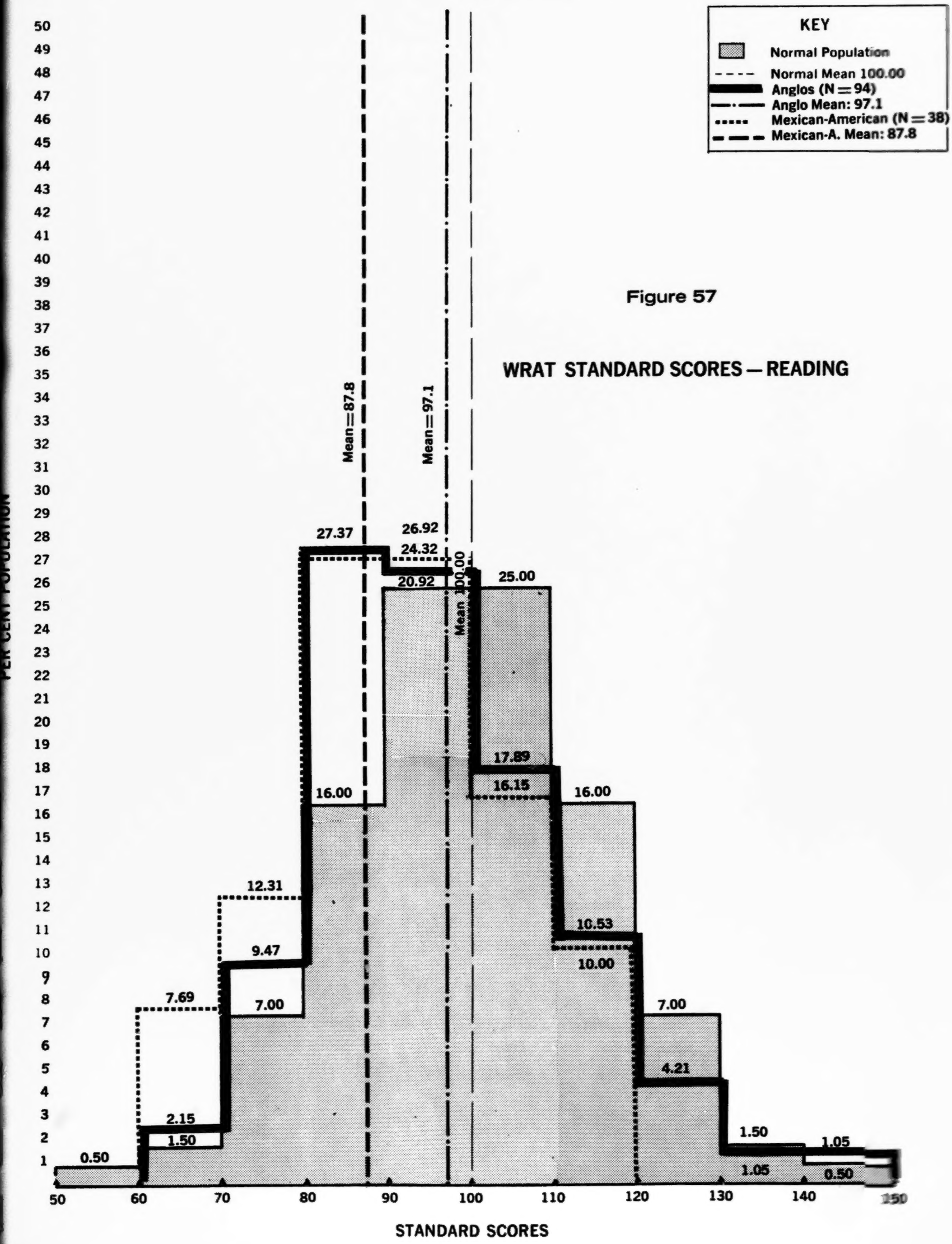


Figure 57

WRAT STANDARD SCORES — READING

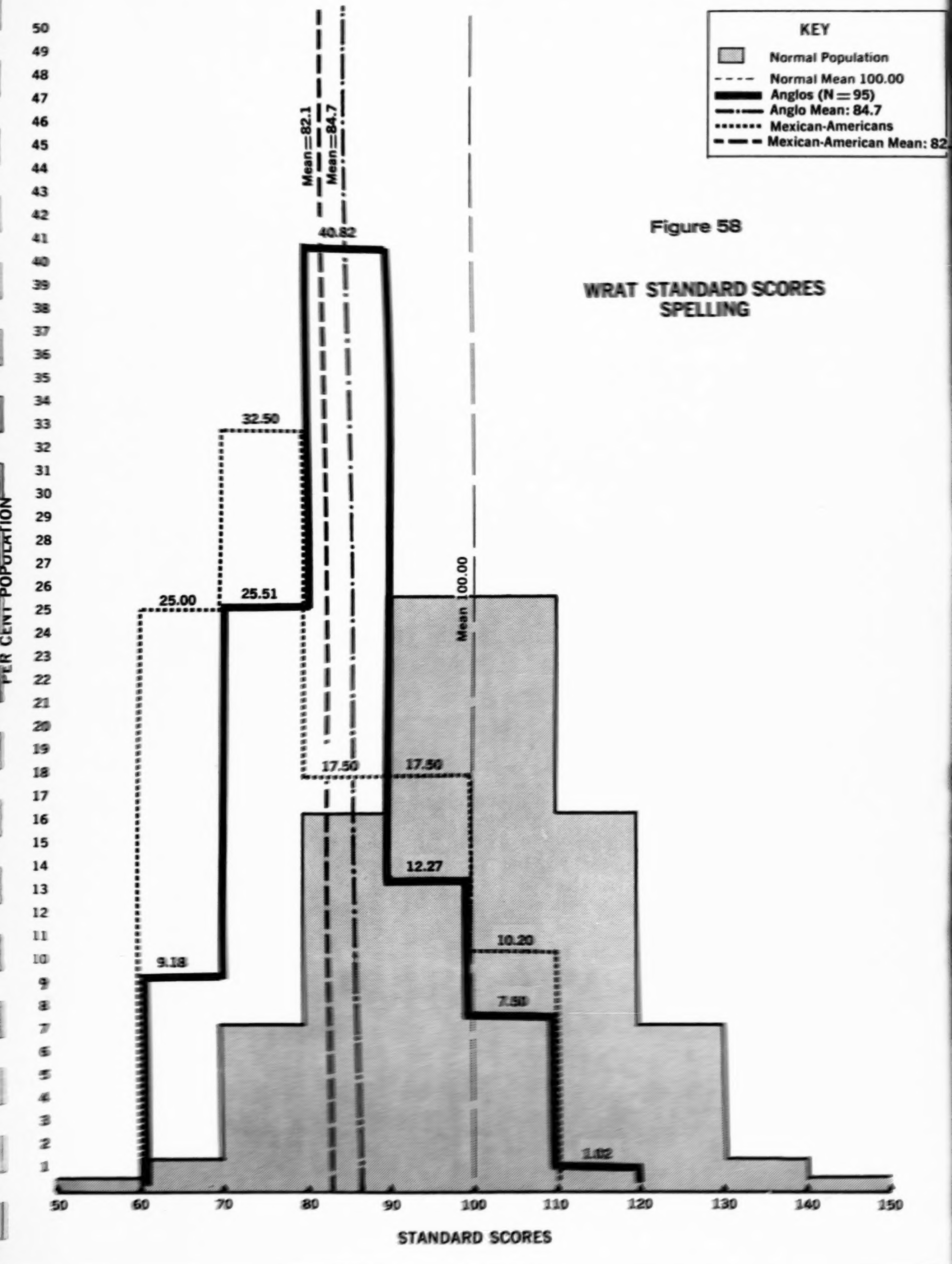


Figure 58

WRAT STANDARD SCORES
SPELLING

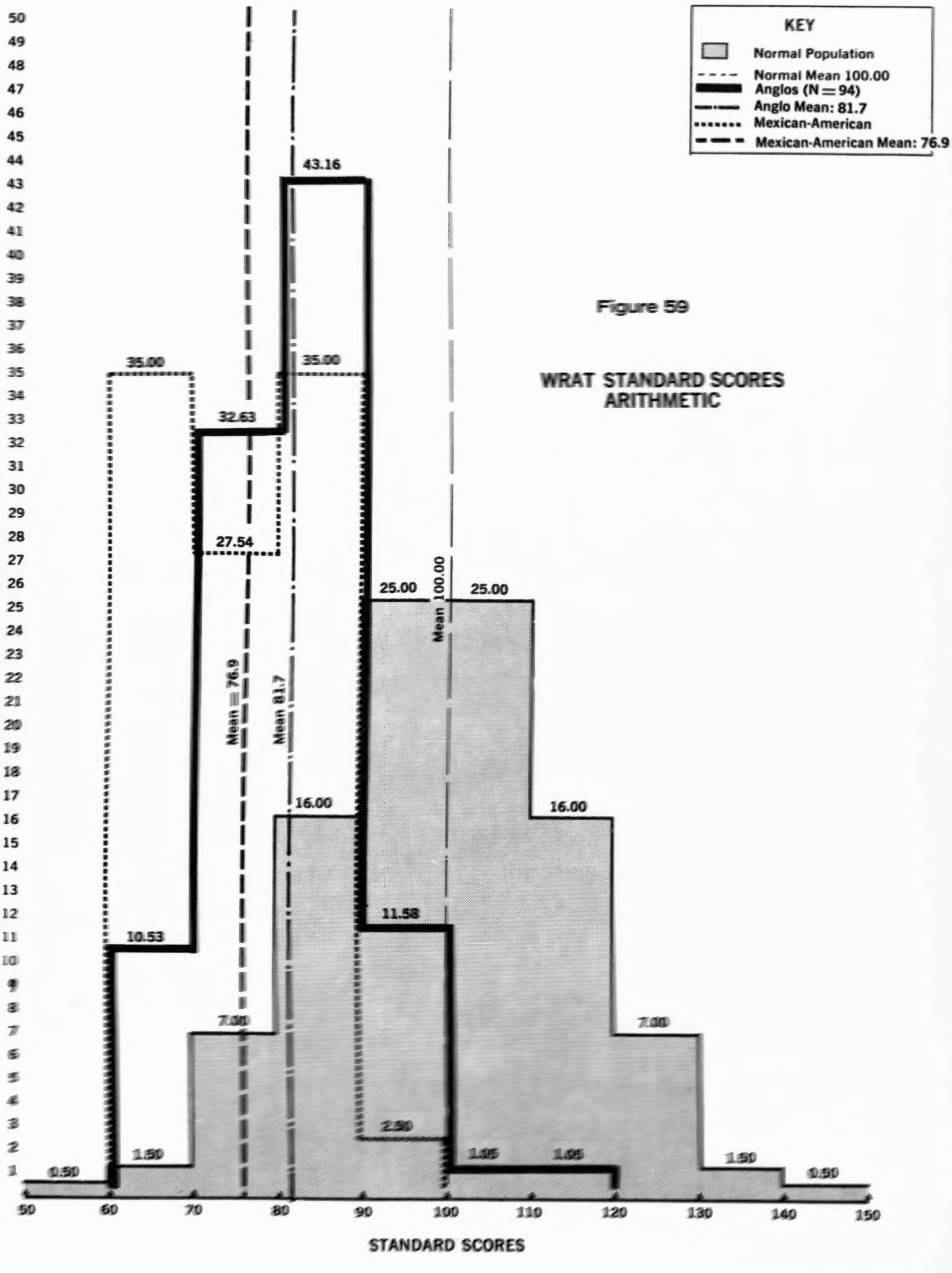


Figure 59

WRAT STANDARD SCORES ARITHMETIC

Standard Scores	Classification
130 and up	Very superior
120-129	Superior
110-119	High Average
90-109	Average
80-89	Low Average
70-79	Inferior
69 and below	Defective

Based on this system of classification, 16.84% of the Anglo students in the test population rated high average or above in reading while only 10.0% of the Mexican-Americans did as well. Of the Anglos, 71.58% were rated as low average or average as compared with 67.99% of the Mexican-Americans. At the extreme low end of the rating scale, only 12.62% of the Anglos rated inferior or defective while 20.00% of the Mexican-Americans exhibited inferior or defective reading skills.

The same distribution is apparent in the scores obtained on the spelling section of the WRAT. Of the Anglos, 1.02% scored high average or above while 0.0% of the Mexican-American students scored in this range. Of the Anglos, 64.29% scored at low average to average as compared with 42.50% of the Mexican-Americans; 34.69% of the Anglos scored at the inferior or defective range as compared with 57.50% of the Mexican-Americans.

In the arithmetic section, scores were as follows: high average, 1.05% Anglos, and 0.0% Mexican-Americans; low average to average, 55.75% Anglos, and 37.50% Mexican-Americans; inferior to defective, 43.16% Anglos, and 63.53% of the Mexican-Americans.

In summary, a larger proportion of Anglos obtained higher scores than did Mexican-Americans. And, a larger proportion of Mexican-Americans obtained lower scores than did Anglos. No Mexican-American scored between 120-150 (superior to very superior) on any of the three tests.

Distribution of scores for the males was the same as for the female subgroup; this was also true of attendance groups A and B. (See Figure 60.) Relative to the male/female comparison, it is noteworthy that 15.6% of the total tested male population scored high average, superior, or very superior in reading, as compared to 10.0% of the total female population scoring in that range.

2. Teacher Evaluation Compared with WRAT Scores

The Teacher Information Matrix (TIM) (see Table V, 2, infra) provided data on the Valley High School teachers' evaluations of student performance in reading and arithmetic. These data were compared with the students' WRAT scores. (See Table V, 4, infra.) The following chart compares TIM findings with the relevant data from the WRAT for reading and arithmetic.

Figure 60

WRAT—DISTRIBUTION OF STANDARD SCORES

BY SEX

Score	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-140	141-150
Spelling										
Male — N=98; Mean=83.2	**0.9**	**14.3**	**27.6**	**34.7**	**13.3**	**9.2**	**1.0**	**0.0**	**0.0**	**0.0**
Female — N=40; Mean=78.9	0.0	15.0	25.0	32.5	17.5	10.0	0.0	0.0	0.0	0.0
Arithmetic										
Male — N=96; Mean=80.8	**0.0**	**12.5**	**33.3**	**42.7**	**10.4**	**0.0**	**1.0**	**0.0**	**0.0**	**0.0**
Female — N=40; Mean=92.8	0.0	30.0	27.5	37.5	5.0	2.5	0.0	0.0	0.0	0.0
Reading										
Male — N=96; Mean=94.6	**1.0**	**6.3**	**11.5**	**25.0**	**26.0**	**14.6**	**9.4**	**4.2**	**1.0**	**1.0**
Female — N=40; Mean=92.8	0.0	5.0	12.5	27.5	22.5	17.5	10.0	0.0	0.0	0.0

BY ATTENDANCE GROUP

Score	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-140	141-150
Spelling										
Group A — N=87; Mean=83.7	**0.0**	**16.1**	**26.4**	**29.9**	**16.1**	**10.3**	**1.1**	**0.0**	**0.0**	**0.0**
Group B — N=49; Mean=83.4	0.0	12.2	30.6	40.8	10.2	6.1	0.0	0.0	0.0	0.0
Arithmetic										
Group A — N=85; Mean=80.4	**0.0**	**18.8**	**28.2**	**41.2**	**9.4**	**1.2**	**1.2**	**0.0**	**0.0**	**0.0**
Group B — N=47; Mean=79.8	0.0	17.0	40.4	36.2	6.4	0.0	0.0	0.0	0.0	0.0
Reading										
Group A — N=87; Mean=94.6	**1.1**	**8.0**	**10.3**	**24.1**	**25.3**	**13.8**	**12.6**	**2.3**	**1.1**	**1.1**
Group B — N=46; Mean=97.6	0.0	2.2	15.2	28.3	28.3	17.4	4.3	4.3	0.0	0.0

Elementary grade level is defined as grades 1 to 4; average grade level as grades 5 to 9; and, superior grade level as grade 10 and over.

Teachers' Evaluation and WRAT Scores Comparison

Reading	Elementary Grade Level	Average Grade Level	Superior Grade Level
Teachers Eval.	38%	48%	15%
WRAT Score	12%	63%	25%
Arithmetic			
Teachers' Eval.	47%	50%	3%
WRAT Score	34%	64%	2%

In most instances, the teachers at Valley High tended to overestimate poor performance on the part of the students, and to underestimate average and superior performance. An accurate teacher estimation of general students' abilities (as compared with WRAT scores) was demonstrated in only one instance: that of superior performance in arithmetic.

3. Correlational Study: WRAT

Figure 61 presents correlational findings relative to the WRAT. As can be seen, neither the sex nor attendance subgroups showed any significant correlation with other variables, i.e., spelling, arithmetic and reading. Ethnic grouping, however, does show some significant correlations

FIGURE 61

WRAT CORRELATIONS

		1	2	3	4	5	6	7	8	9	10
Sex Grouping	1										
Attendance Grouping	2	.079									
Ethnic Grouping	3	-.122	-.105								
Age	4	-.134	.104	-.092							
Grade Placement Spelling	5	.049	.023	$-.210^{*}$	$-.255^{+}$						
Standard Score Spelling	6	.052	.011	$-.198^{*}$	$-.288^{+}$	$.998^{+}$					
Grade Placement Arithmetic	7	-.111	-.006	$-.233^{+}$	-.077	$.601^{+}$	$.591^{+}$				
Standard Score Arithmetic	8	-.102	-.008	$-.222^{+}$	-.103	$.597^{+}$	$.590^{+}$	$.997^{+}$			
Grade Placement Reading	9	-.063	-.011	$-.319^{+}$	$-.247^{+}$	$.753^{+}$	$.752^{+}$	$.470^{+}$	$.468^{+}$		
Standard Score Reading	10	-.064	-.024	$-.302^{+}$	$-.290^{+}$	$.745^{+}$	$.748^{+}$	$.457^{+}$	$.459^{+}$	$.997^{+}$	

df = 133
* .05 level of significance, $\geq .167$
+ .01 level of significance, $\geq .218$

Derived from $t = \frac{r}{\sqrt{1-r2}}\sqrt{n-2}$ in Statistical Methods for the Behavioral Sciences, A. L. Edwards, 1964.

with grade placement and standard scores in spelling, arithmetic and reading. As standard scores and grade placements decrease, there is a corresponding increase in the number representing Mexican-American.

One further correlation seems to be noteworthy. Age of the student correlates negatively with grade placement and standard scores on spelling and reading. These correlations were significant at the .01 level. Indications are that the older the student the poorer his performance in these two areas.

B. The California Achievement Test (CAT) - Complete Battery

The CAT is designed to fulfill the educational testing purposes of measurement, evaluation and diagnosis. The CAT is composed of six "sub-tests": Reading Vocabulary, Reading Comprehension, Arithmetic Reasoning, Arithmetic Fundamentals, Mechanics of English, and Spelling.

The Junior High Level of the CAT was selected as proper to the achievement range at Valley High School. This selection was based on information obtain from the Teacher Information Matrix which estimated a reading level of elementary to average for 86% of the Valley High students. Junior High School norms correspond most closely to these levels. Data processing techniques provided raw scores and grade placement scores, as well as summary data for the total Valley High School student population.

1. Mean Raw Scores on the CAT and Grade Placements for Total Valley High School Population

Sub-Test	Mean Raw Score	Mean Grade Placement
Reading Comprehension	37.1	6.8
Reading Vocabulary	33.6	7.5
Total Reading	70.7	7.0
Arithmetic Reasoning	23.8	7.4
Arithmetic Fundamentals	33.5	7.0
Total Arithmetic	57.3	7.0
Mechanics of English	60.9	7.4
Spelling	15.6	7.5
Total Language	76.6	7.4

For a complete distribution of the scores and grade placements for the Valley High School population, see Figures 62 - 87.

2. CAT Analysis by Sex, Ethnic and Attendance Groupings

Sex Grouping

	Male	Female	Possible
Total Arithmetic			
Range of Scores	25-120	15-105	1-135
Mean Scores	59.2	53.4	
Arithmetic Reasoning			
Range of Scores	5-50	0-45	0-55
Mean Scores	24.6	22.3	

Figure 62

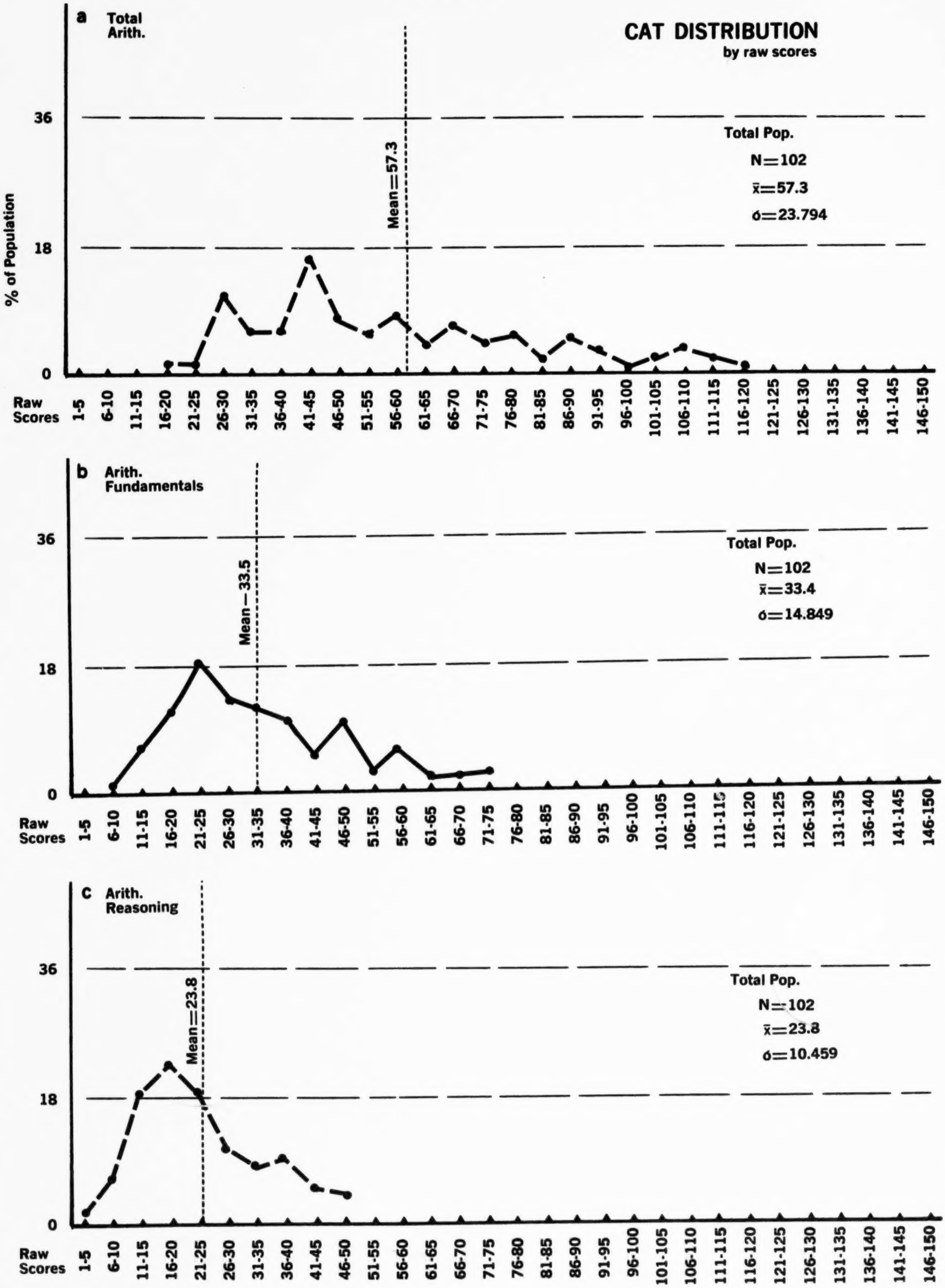

CAT DISTRIBUTION
by raw scores
% of Population
a Total Arith.
Mean=57.3
Total Pop.
N=102
x̄=57.3
σ=23.794
b Arith. Fundamentals
Mean—33.5
Total Pop.
N=102
x̄=33.4
σ=14.849
c Arith. Reasoning
Mean=23.8
Total Pop.
N=102
x̄=23.8
σ=10.459
36
18
0
Raw Scores
1-5
6-10
11-15
16-20
21-25
26-30
31-35
36-40
41-45
46-50
51-55
56-60
61-65
66-70
71-75
76-80
81-85
86-90
91-95
96-100
101-105
106-110
111-115
116-120
121-125
126-130
131-135
136-140
141-145
146-150

Figure 63

CAT DISTRIBUTION
by raw scores

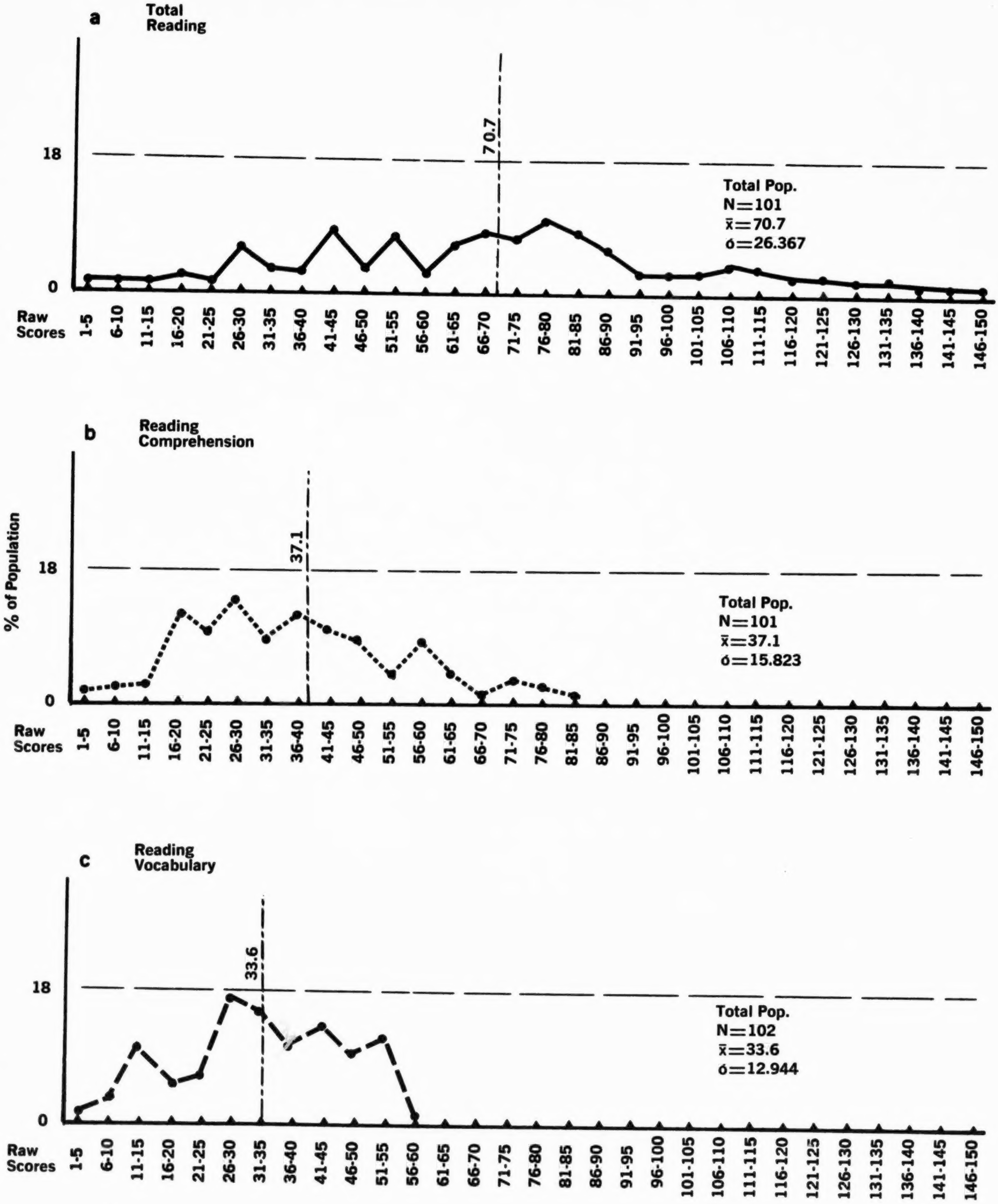


Figure 64

CAT DISTRIBUTION
by raw scores

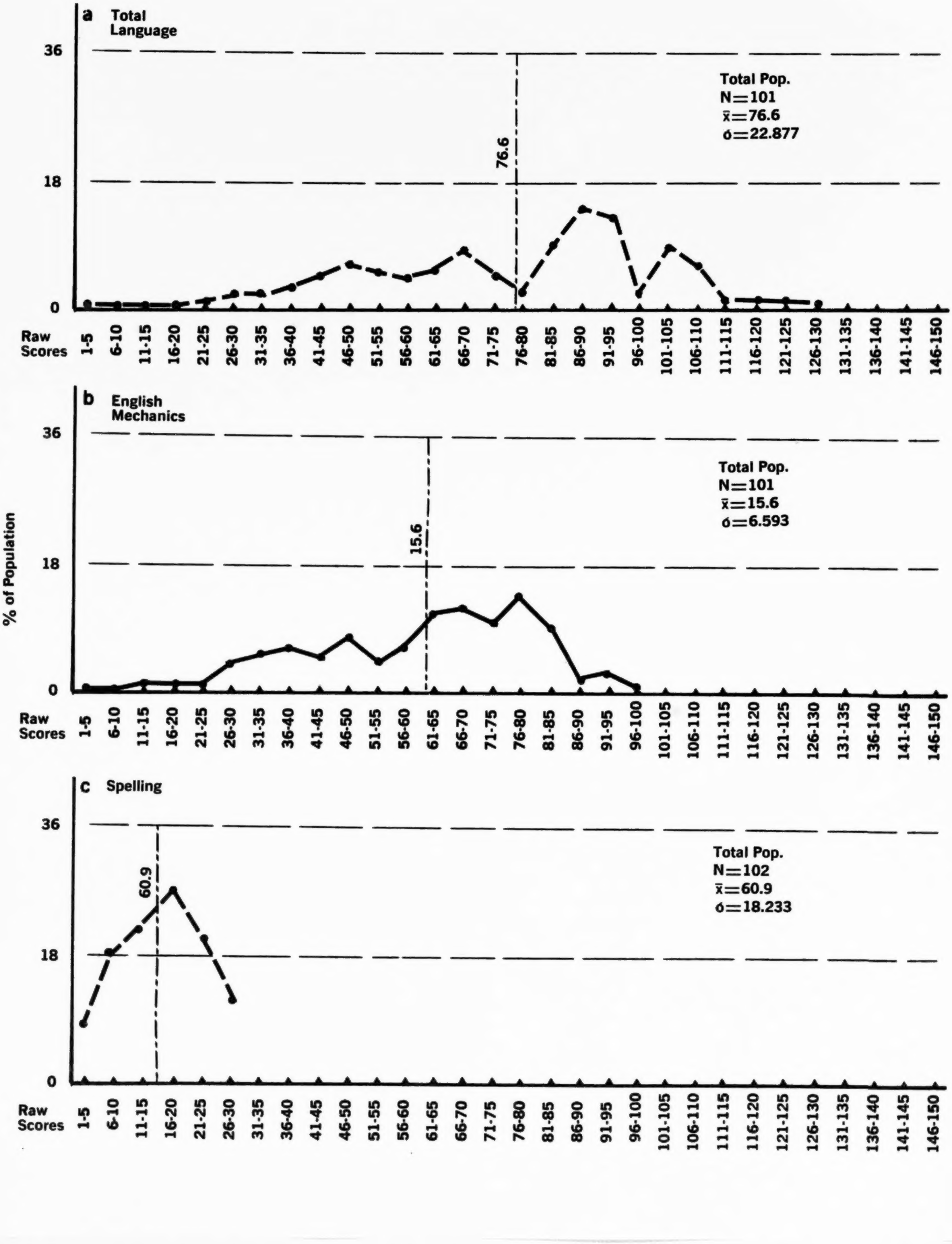


Figure 65

CAT DISTRIBUTION OF OVERALL TOTAL SCORES FOR TOTAL POPULATION (N=99)

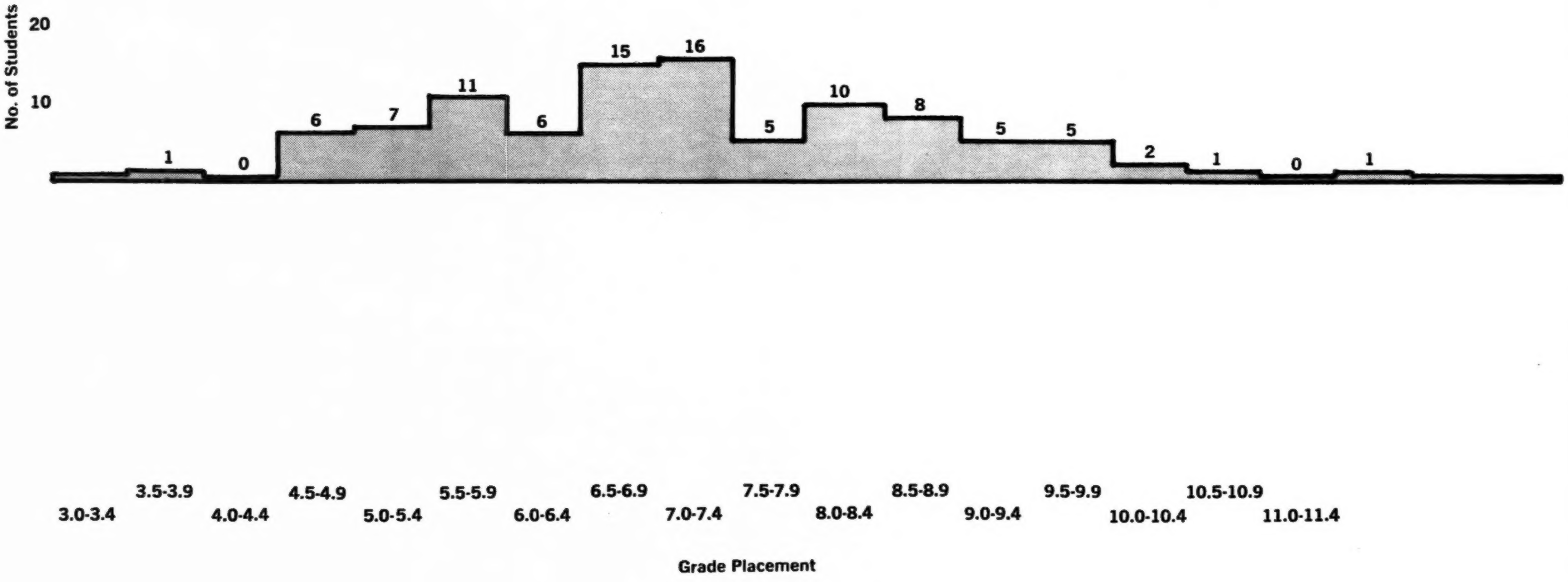
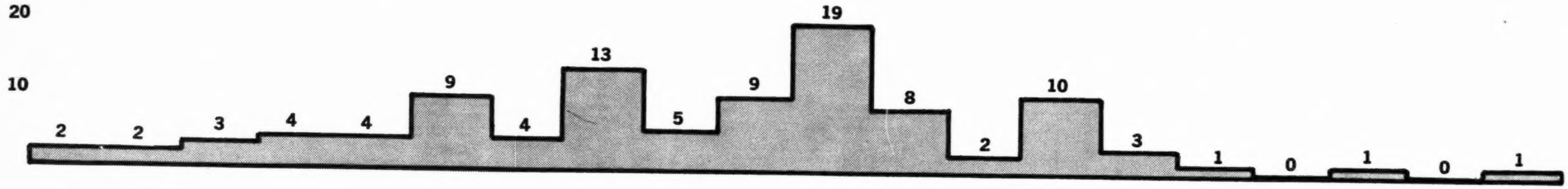


Figure 66

CAT DISTRIBUTION OF SUMMARY SCORES FOR TOTAL POPULATION—LANGUAGE

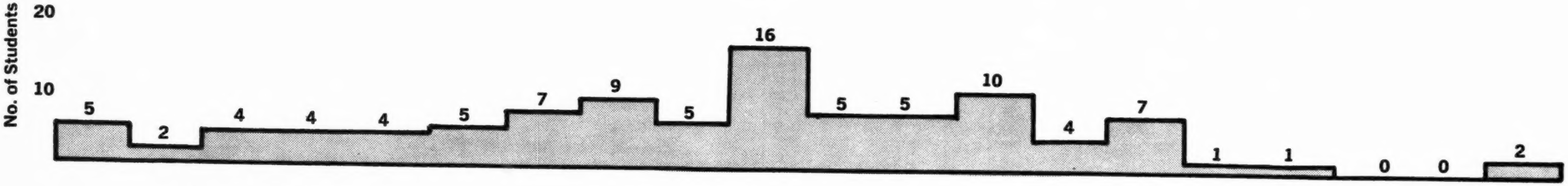
(a) TOTAL LANGUAGE

(N=100)



(b) MECHANICS OF ENGLISH

N=101



(c) SPELLING

(N=100)

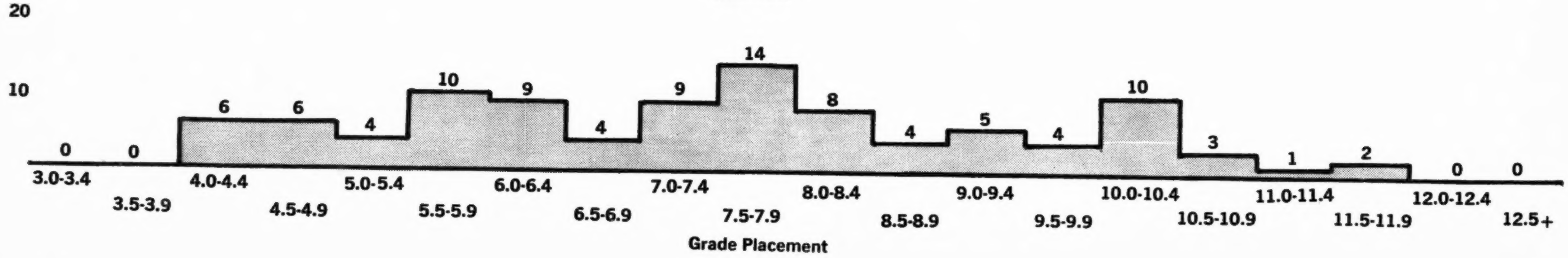
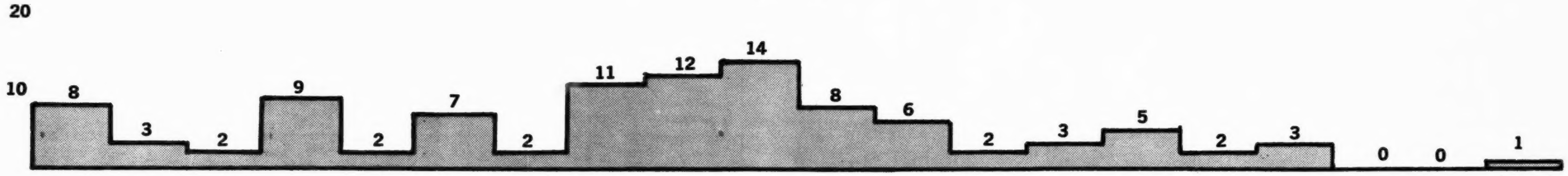


Figure 67

CAT DISTRIBUTION OF SUMMARY SCORES FOR TOTAL POPULATION—READING

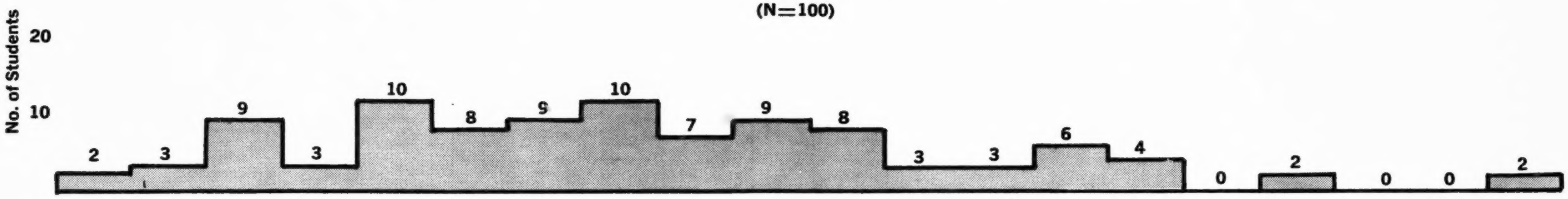
(a) TOTAL READING

(N=100)



(b) READING COMPREHENSION

(N=100)



(c) READING VOCABULARY

N=101

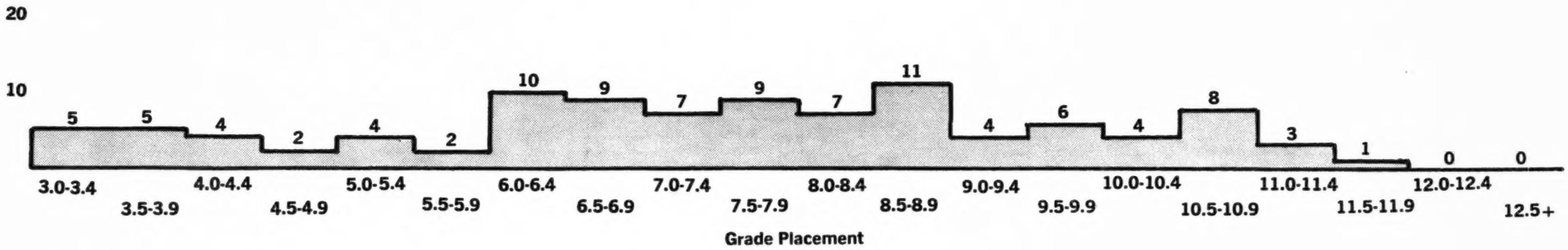
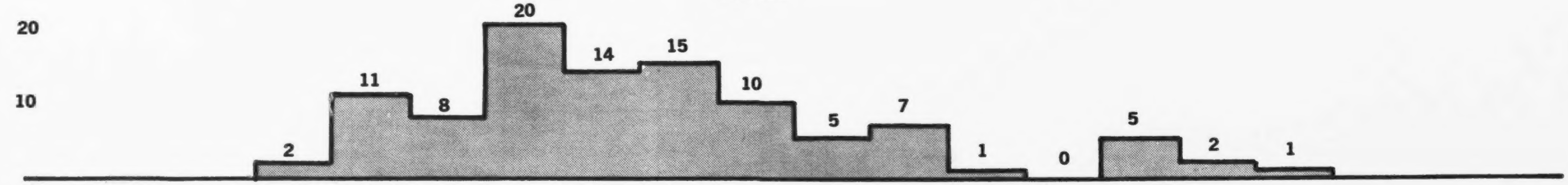


Figure 68

CAT DISTRIBUTION OF SUMMARY SCORES FOR TOTAL POPULATION—ARITHMETIC

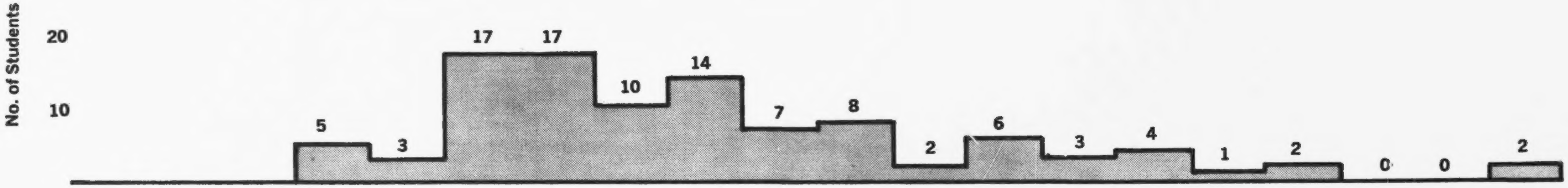
(a) TOTAL ARITHMETIC

N=101



(b) ARITHMETIC REASONING

N=101



(c) ARITHMETIC FUNDAMENTALS

N=101

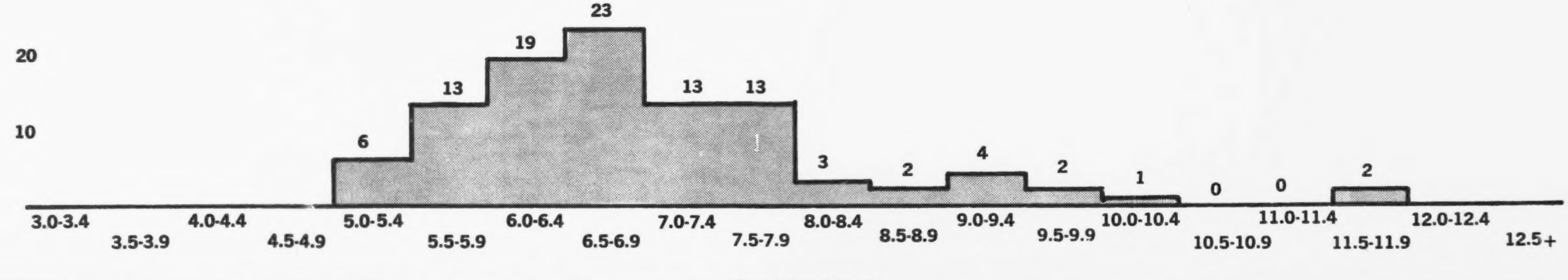
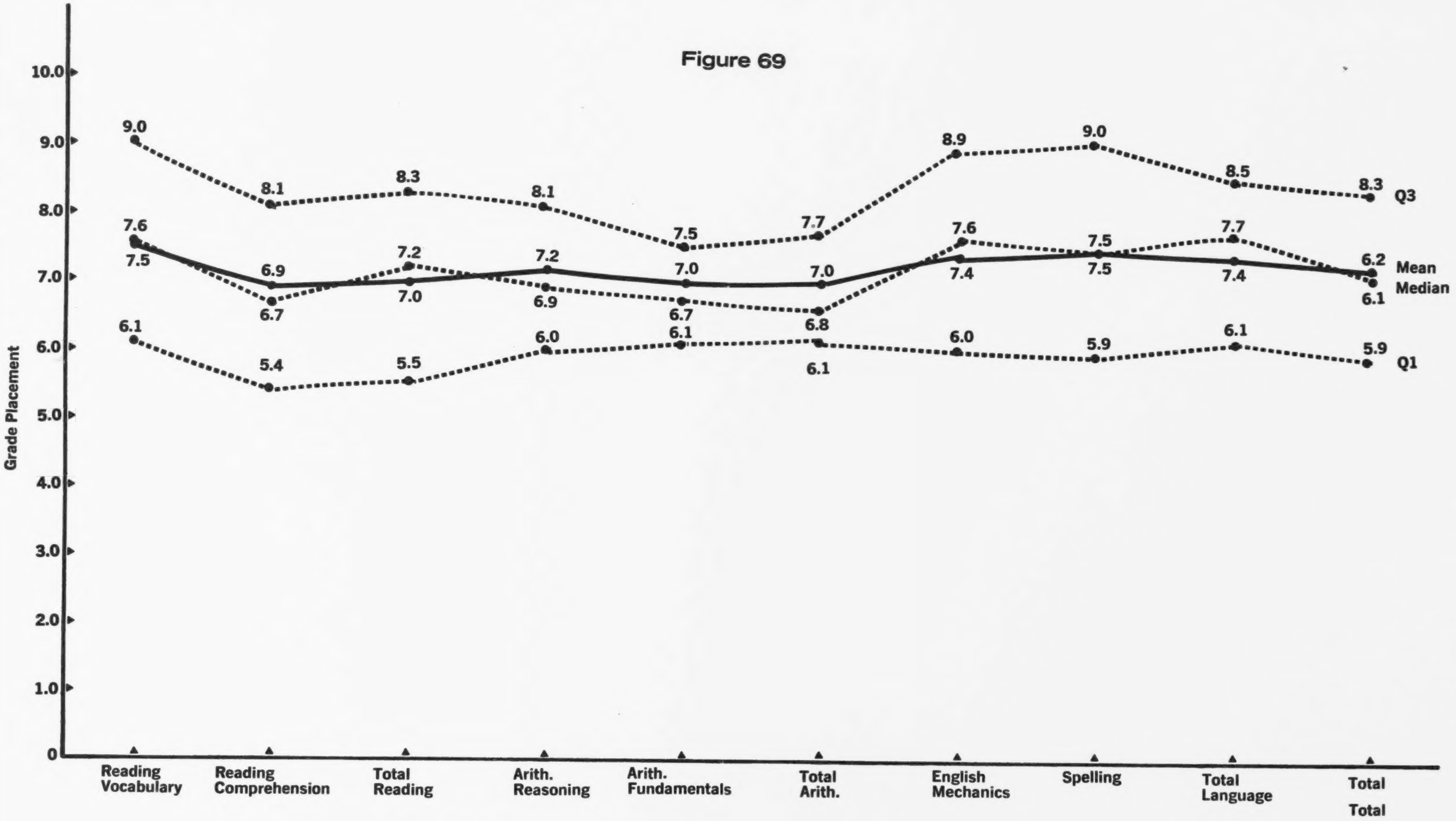


Figure 69



CAT—SUMMARY DATA FOR TOTAL V.H.S. STUDENT POPULATION

Figure 70

CAT DISTRIBUTION
by raw scores
SEX

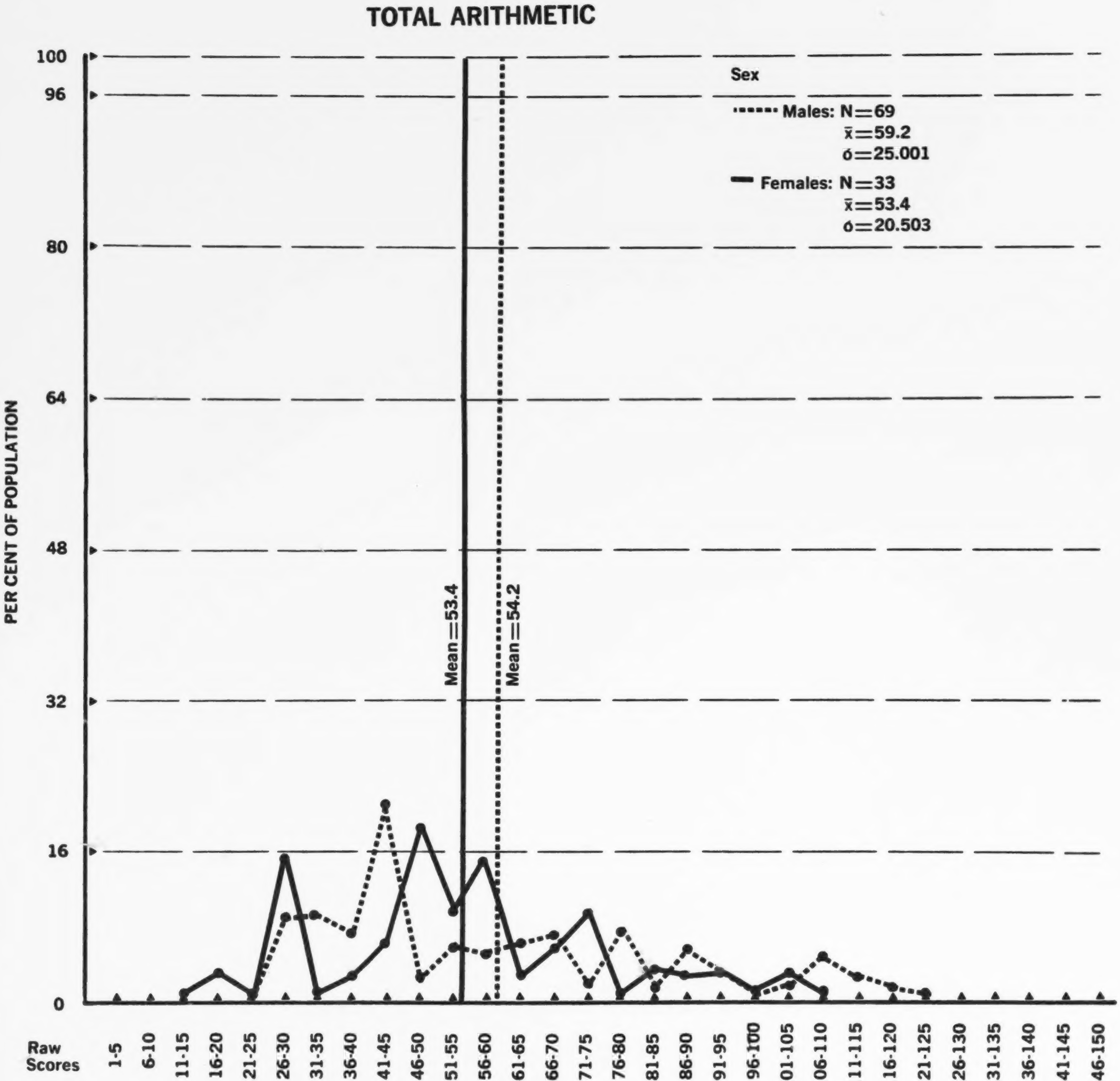

TOTAL ARITHMETIC

Figure 71

CAT DISTRIBUTION
by raw scores
SEX

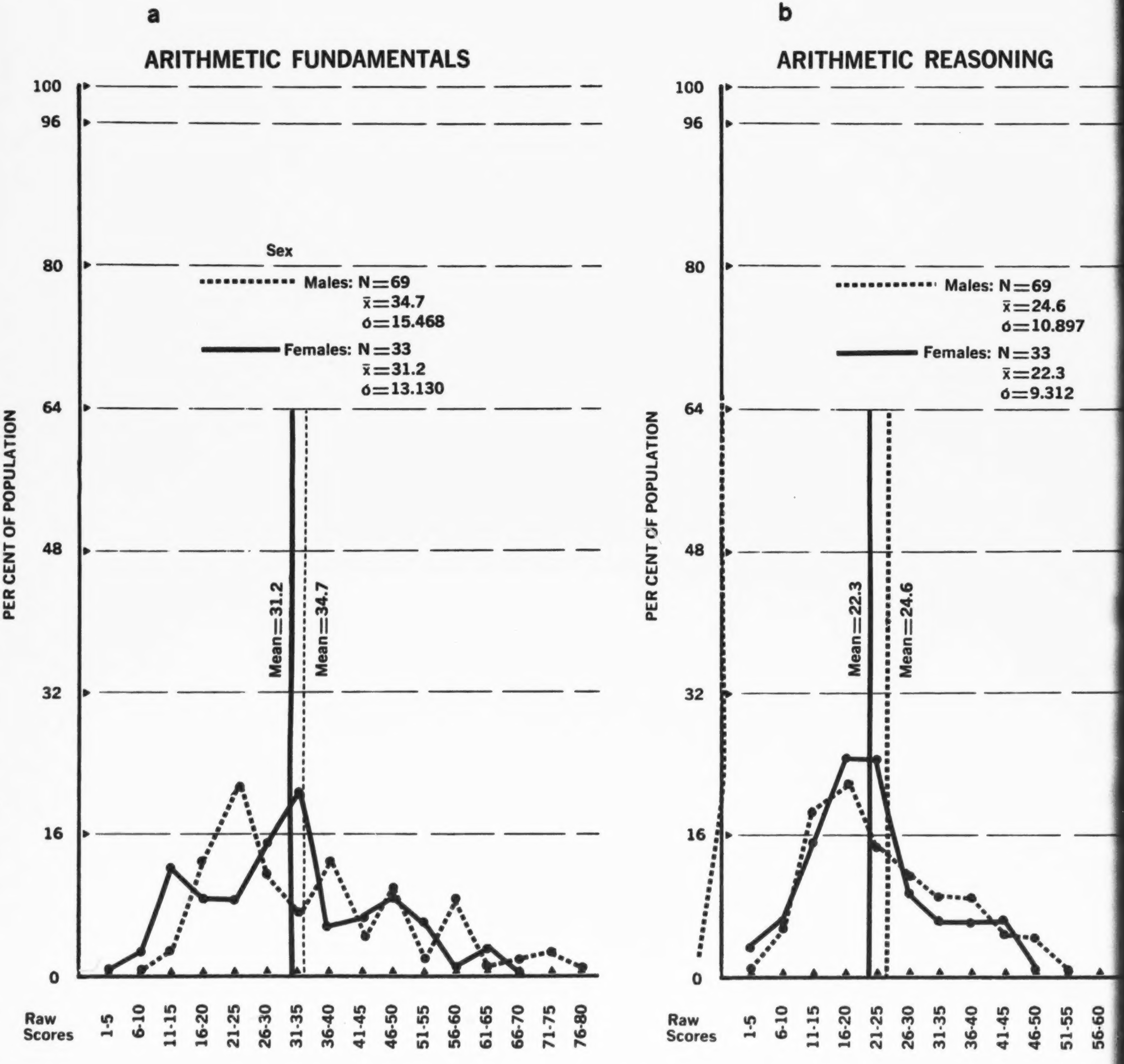


Figure 72

CAT DISTRIBUTION
by raw scores
SEX

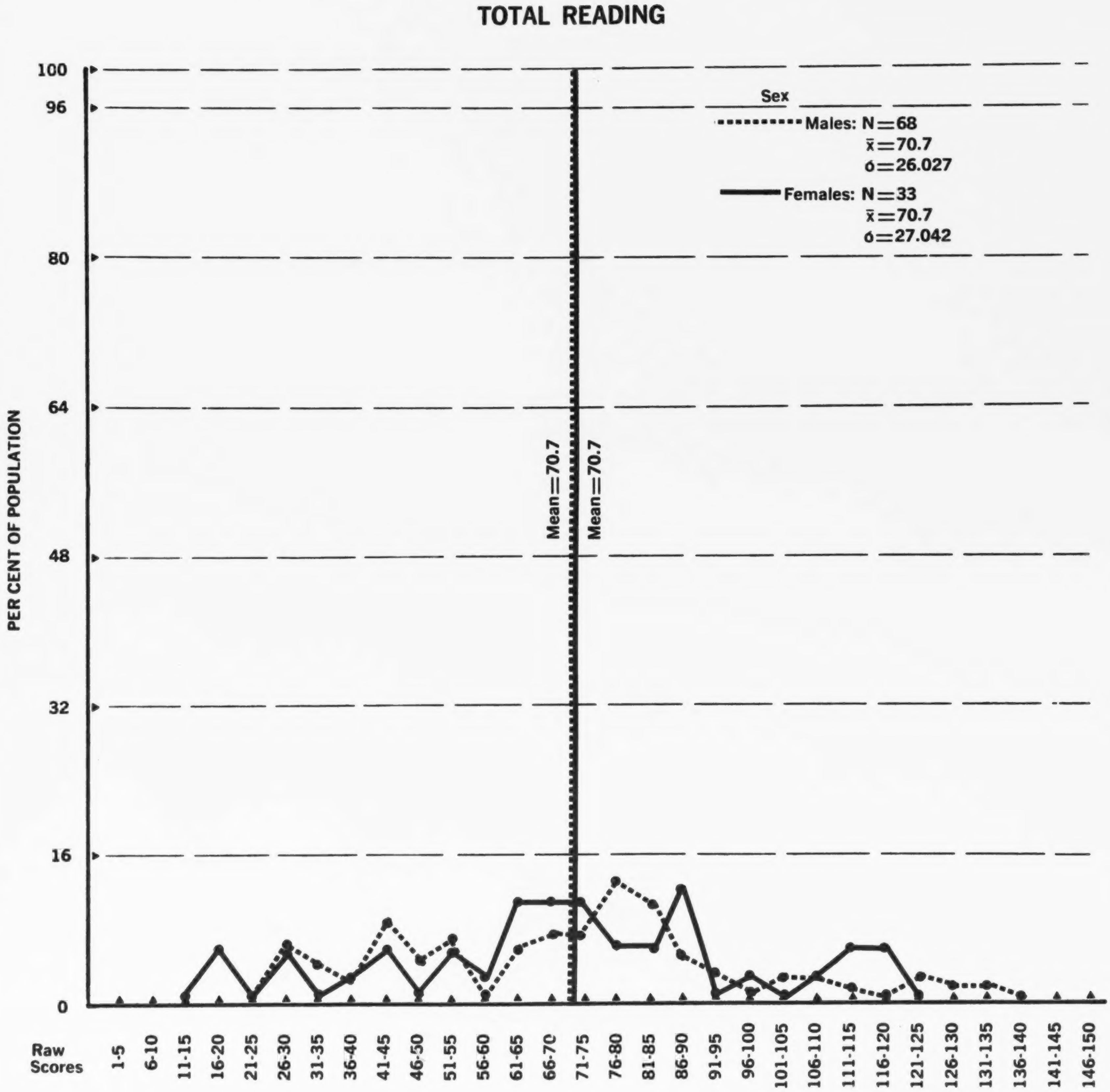


Figure 73

CAT DISTRIBUTION
by raw scores
SEX

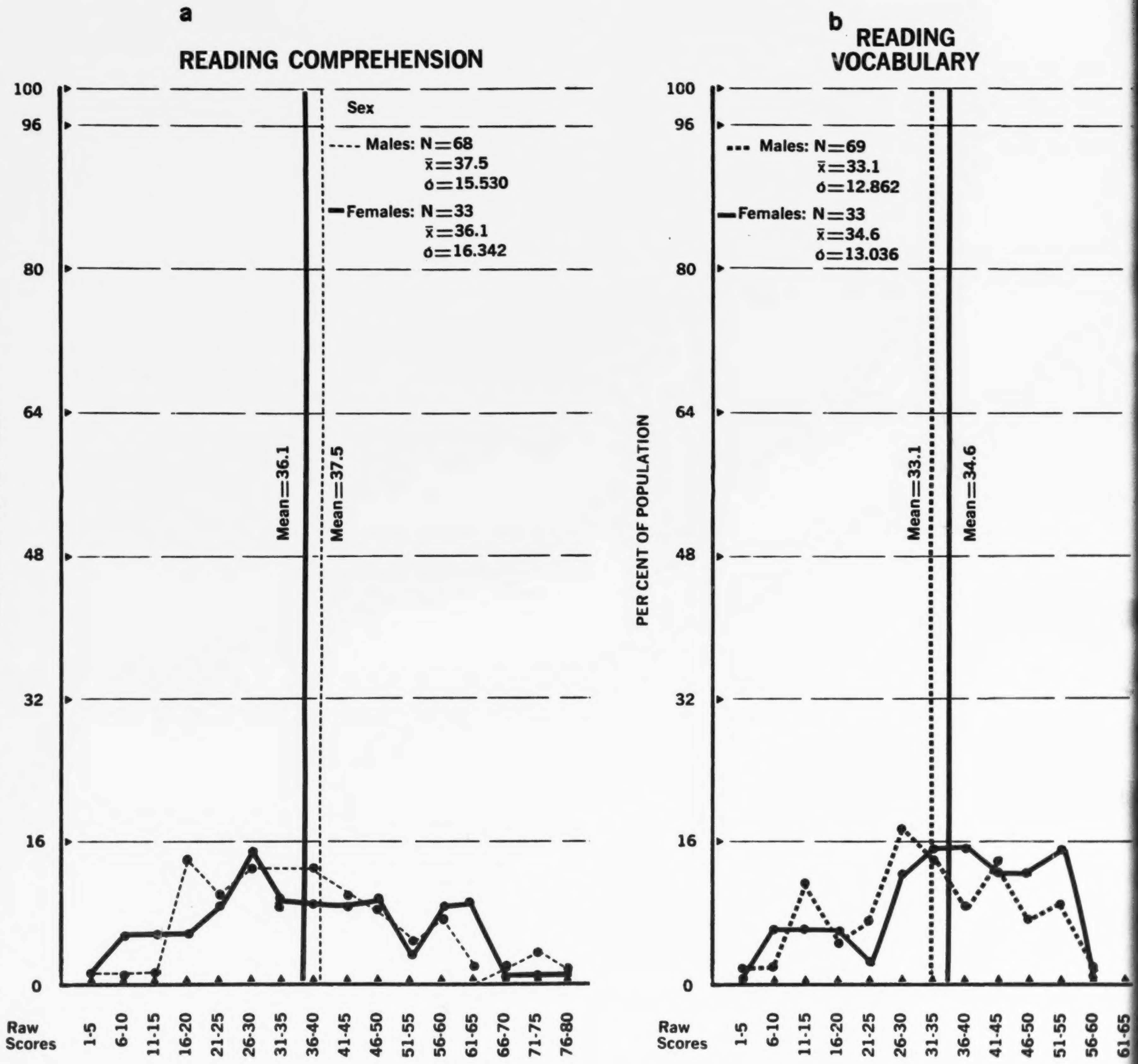


Figure 74

CAT DISTRIBUTION
by raw scores
SEX

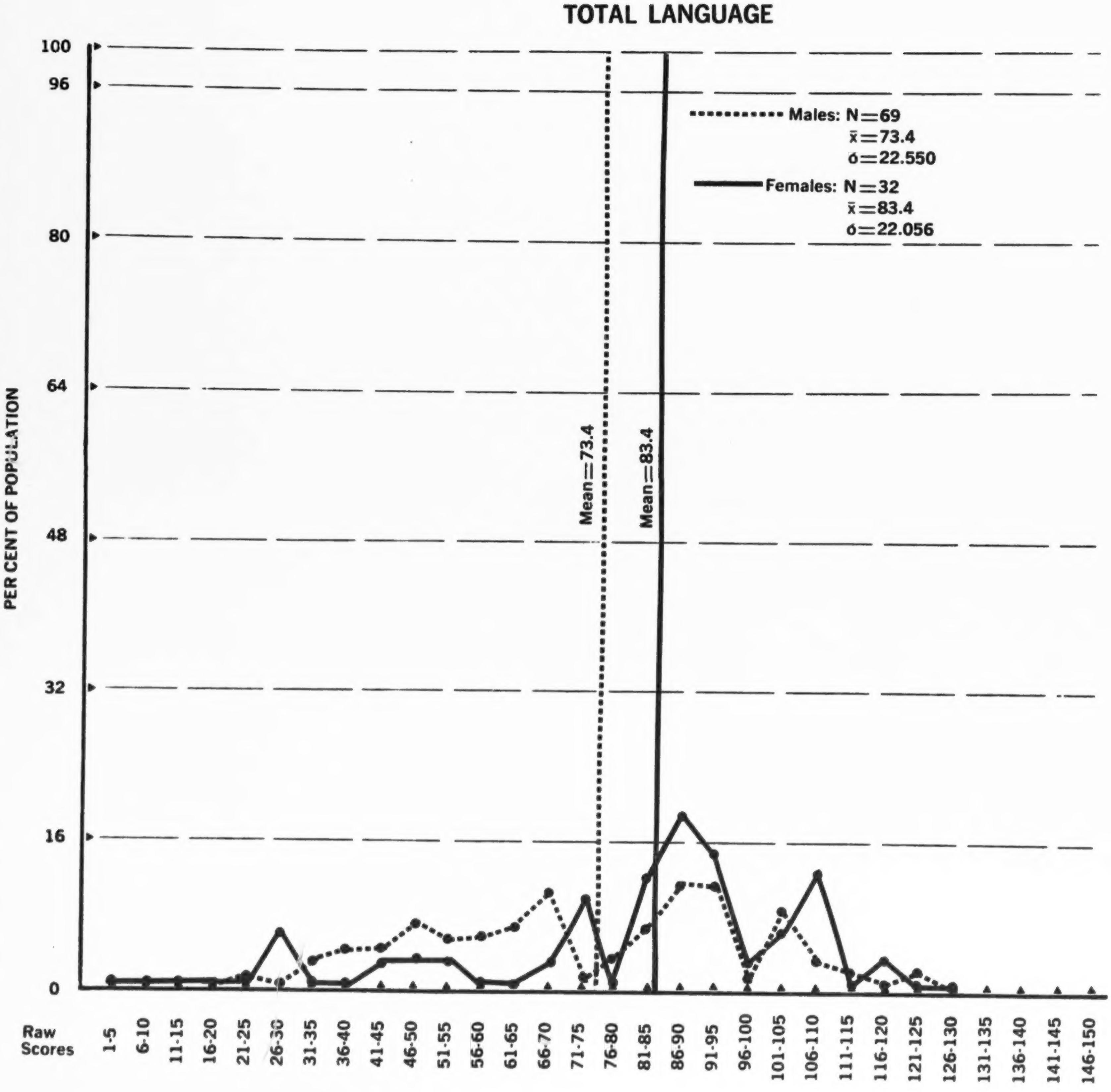


Figure 75

CAT DISTRIBUTION
by raw scores
SEX

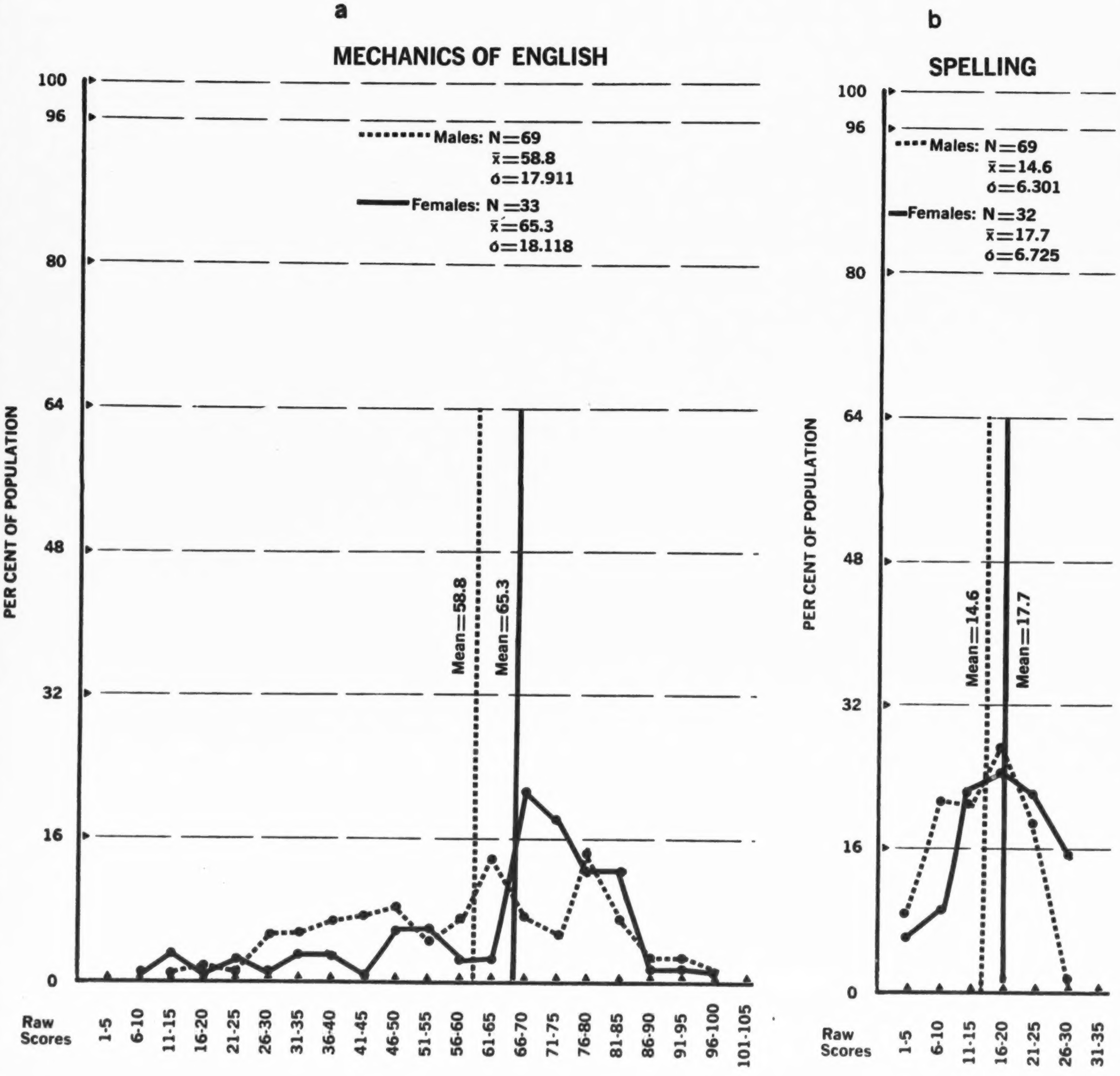


Figure 76

CAT DISTRIBUTION
by raw scores
ETHNIC

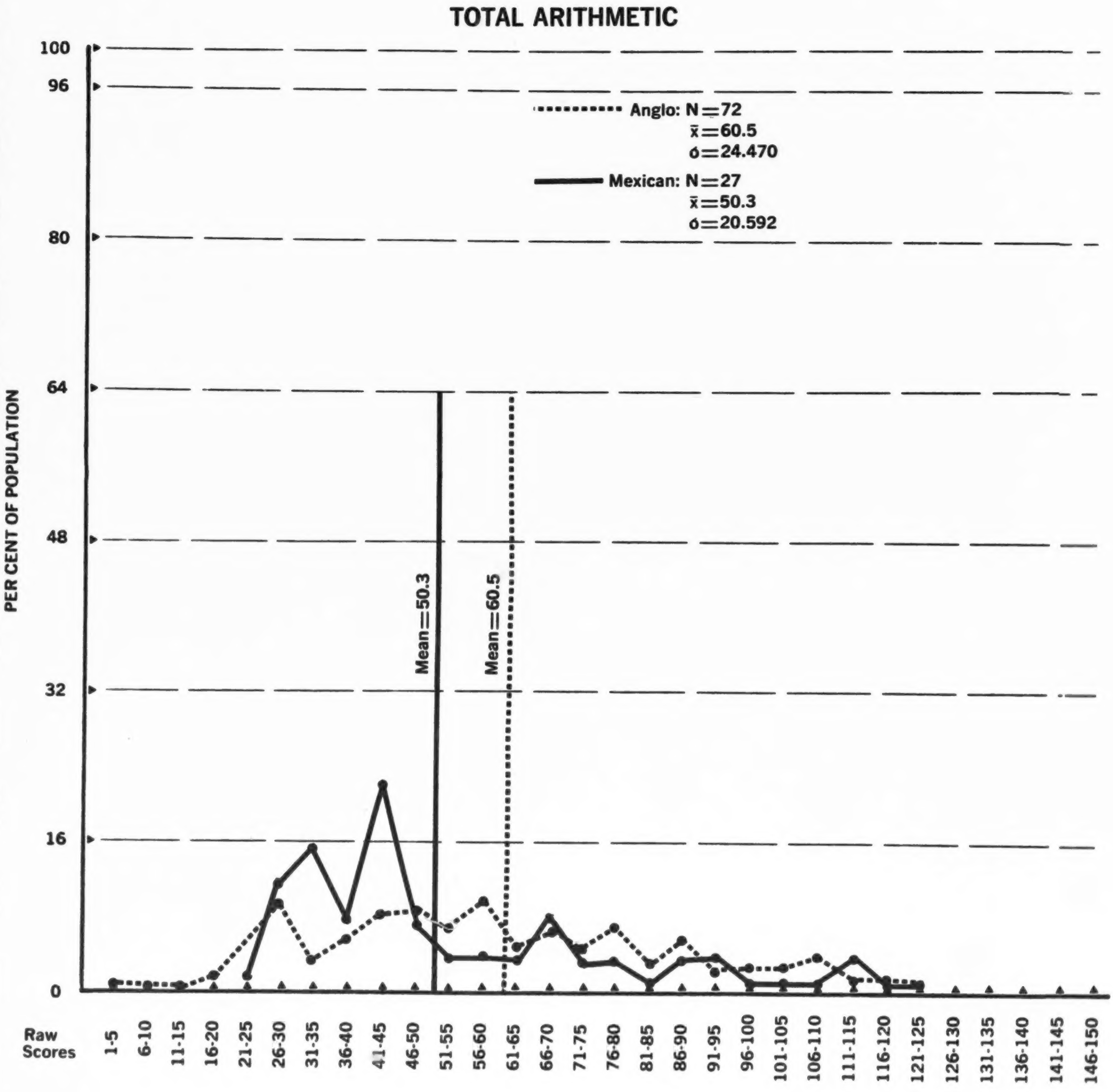


Figure 77

CAT DISTRIBUTION
by raw scores
ETHNIC

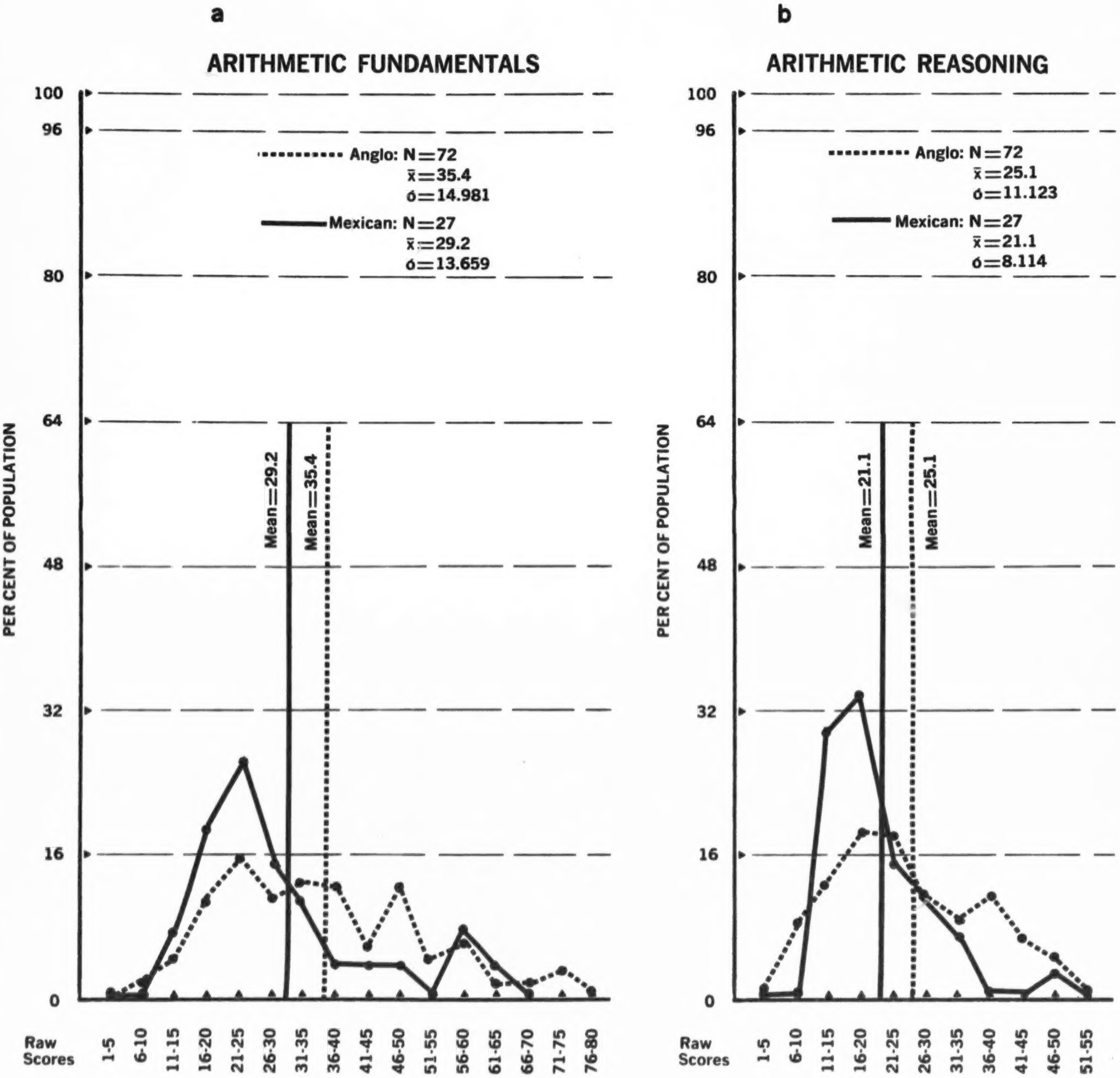


Figure 78

CAT DISTRIBUTION
by raw scores
ETHNIC

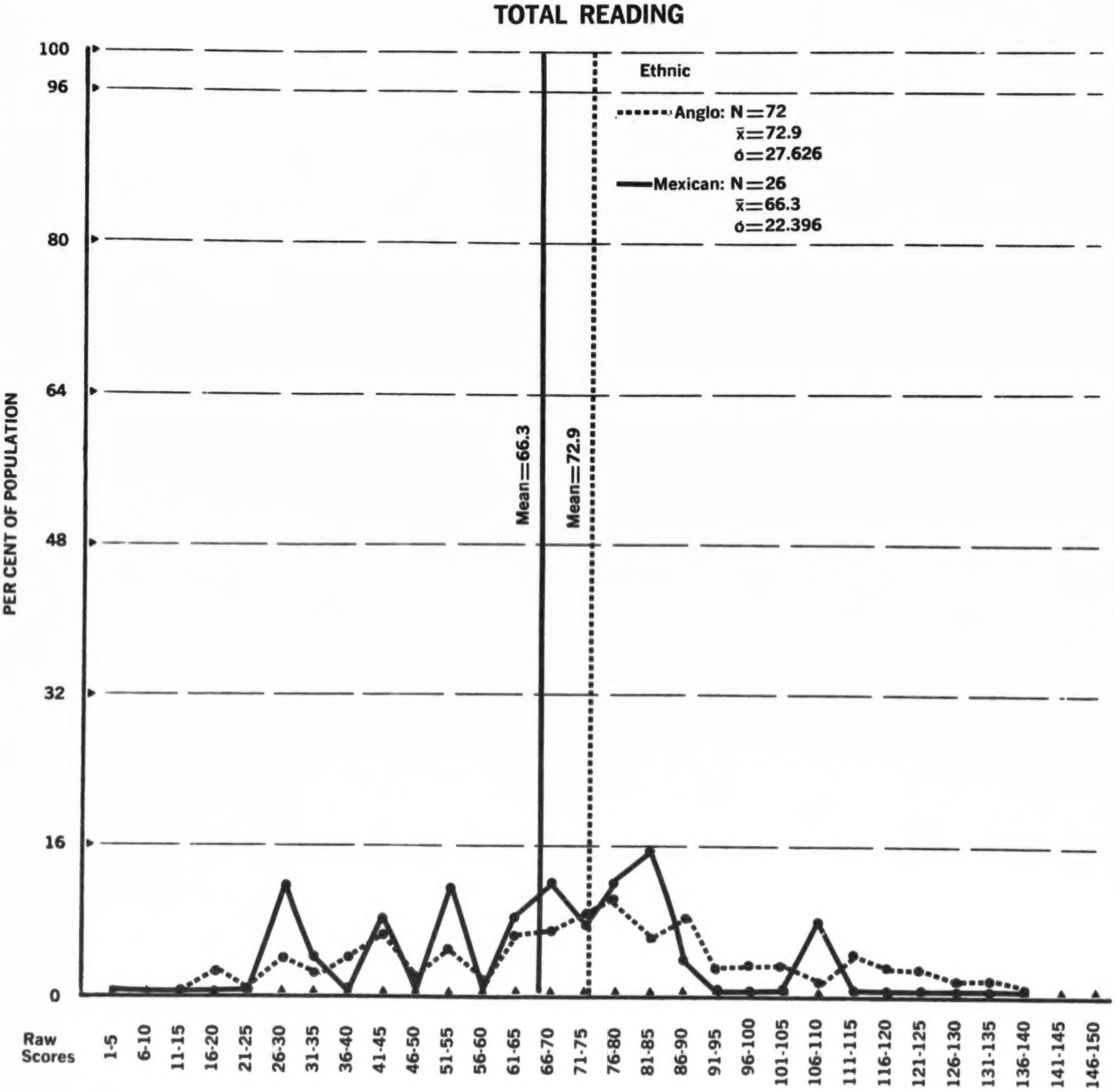


Figure 79

CAT DISTRIBUTION
by raw scores
ETHNIC

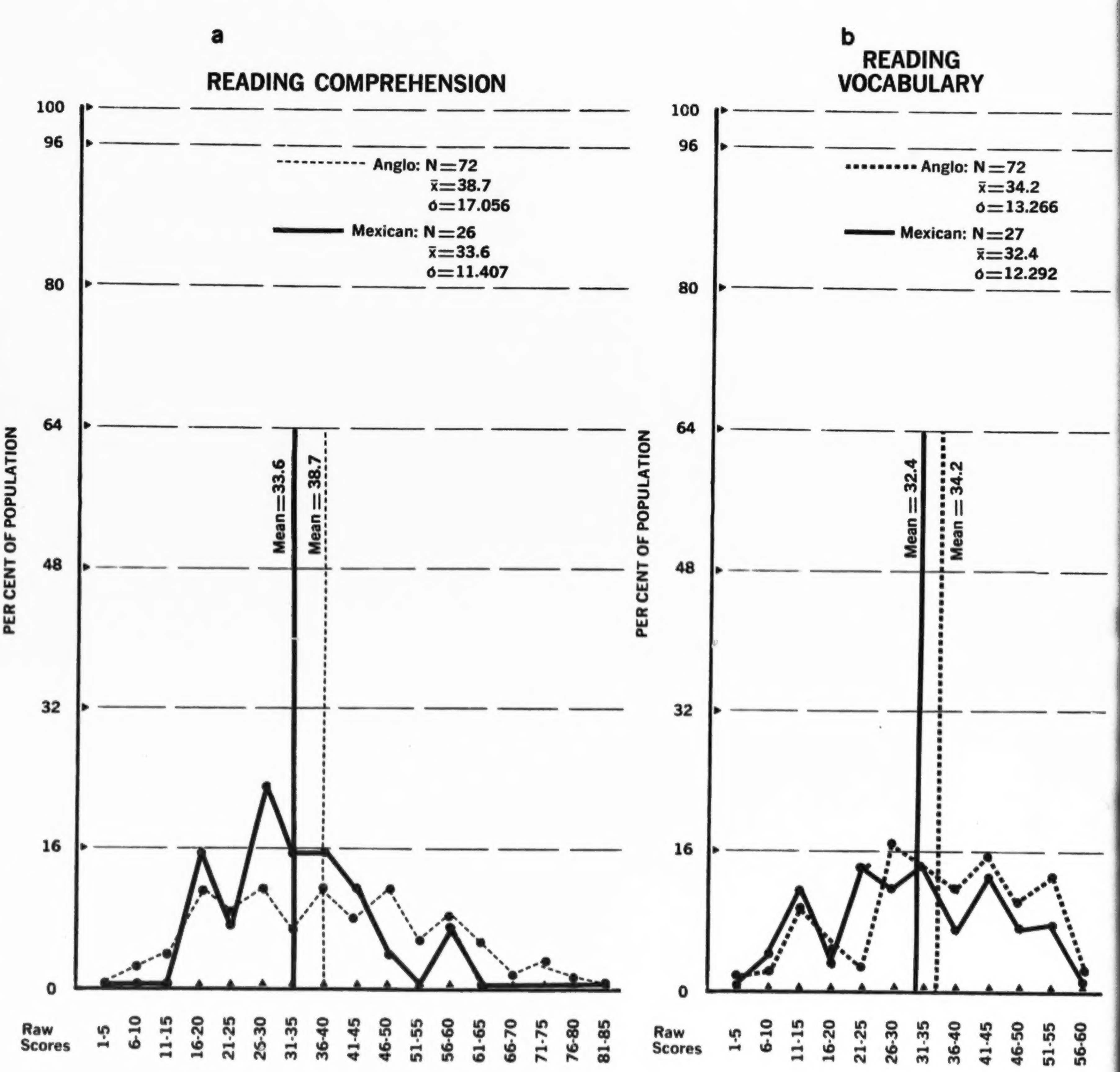


Figure 80

CAT DISTRIBUTION
by raw scores
ETHNIC

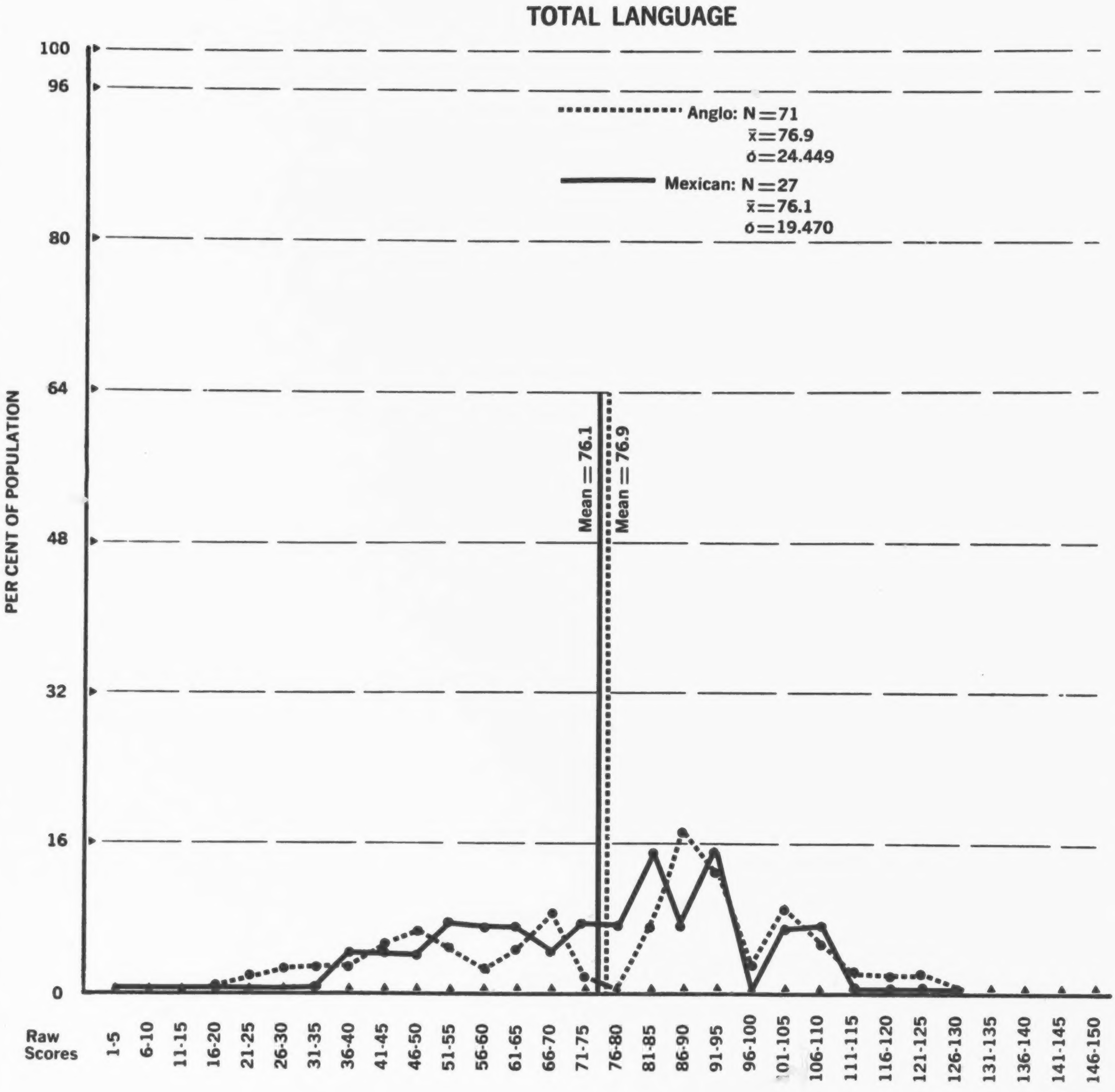


Figure 81

CAT DISTRIBUTION
by raw scores
ETHNIC

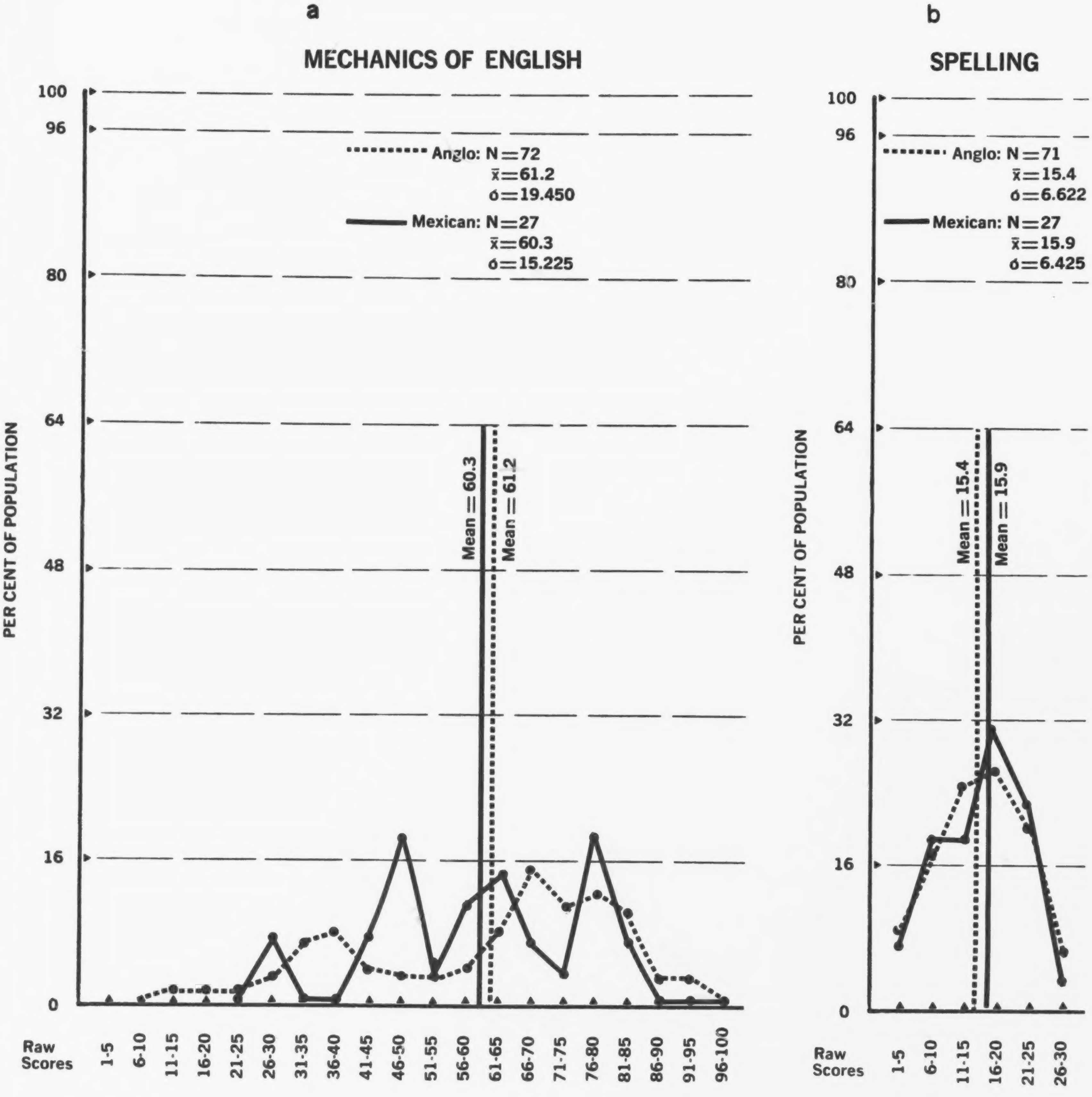


Figure 82

CAT DISTRIBUTION
by raw scores

ATTENDANCE

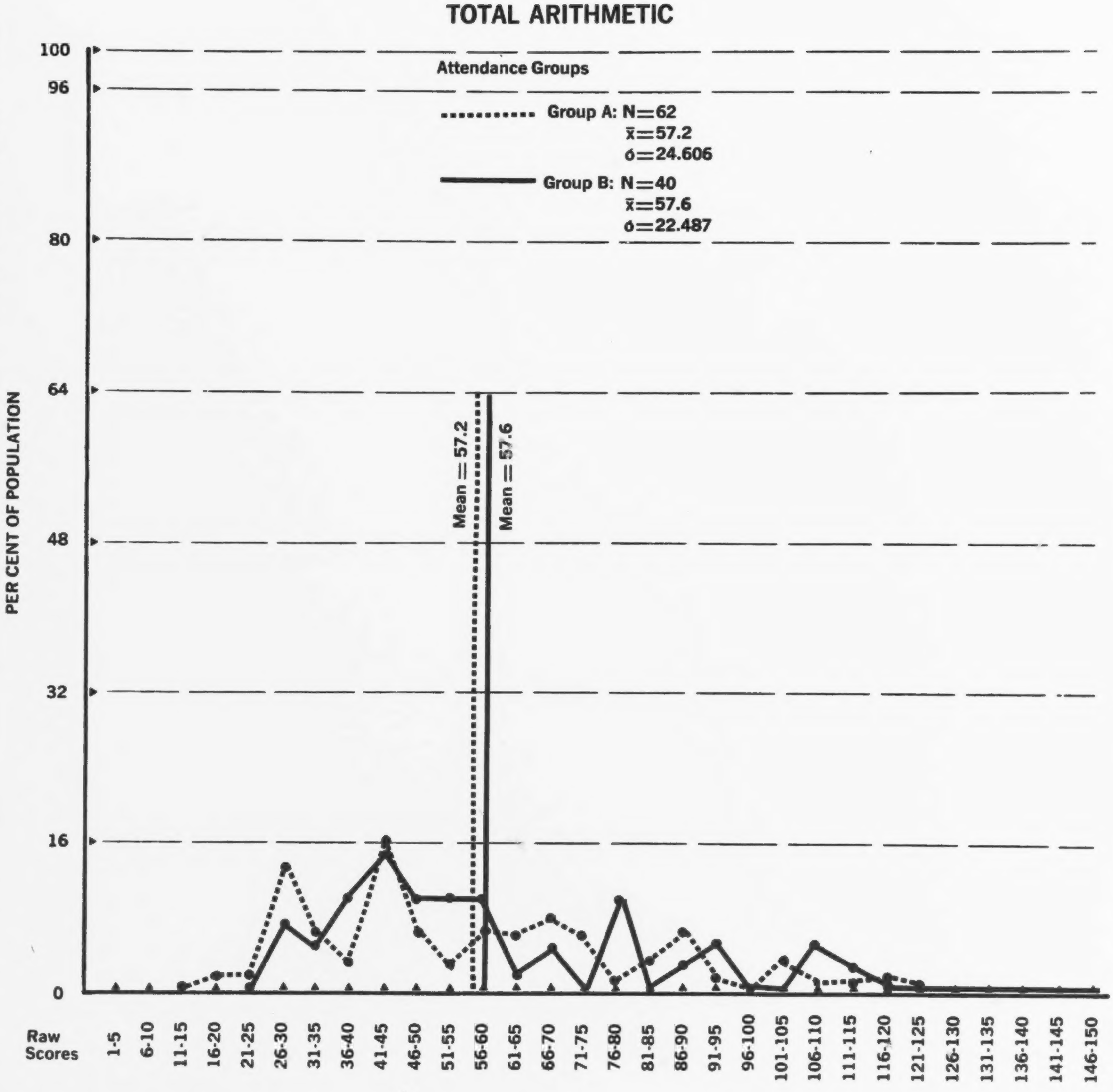


Figure 83

CAT DISTRIBUTION
by raw scores
ATTENDANCE

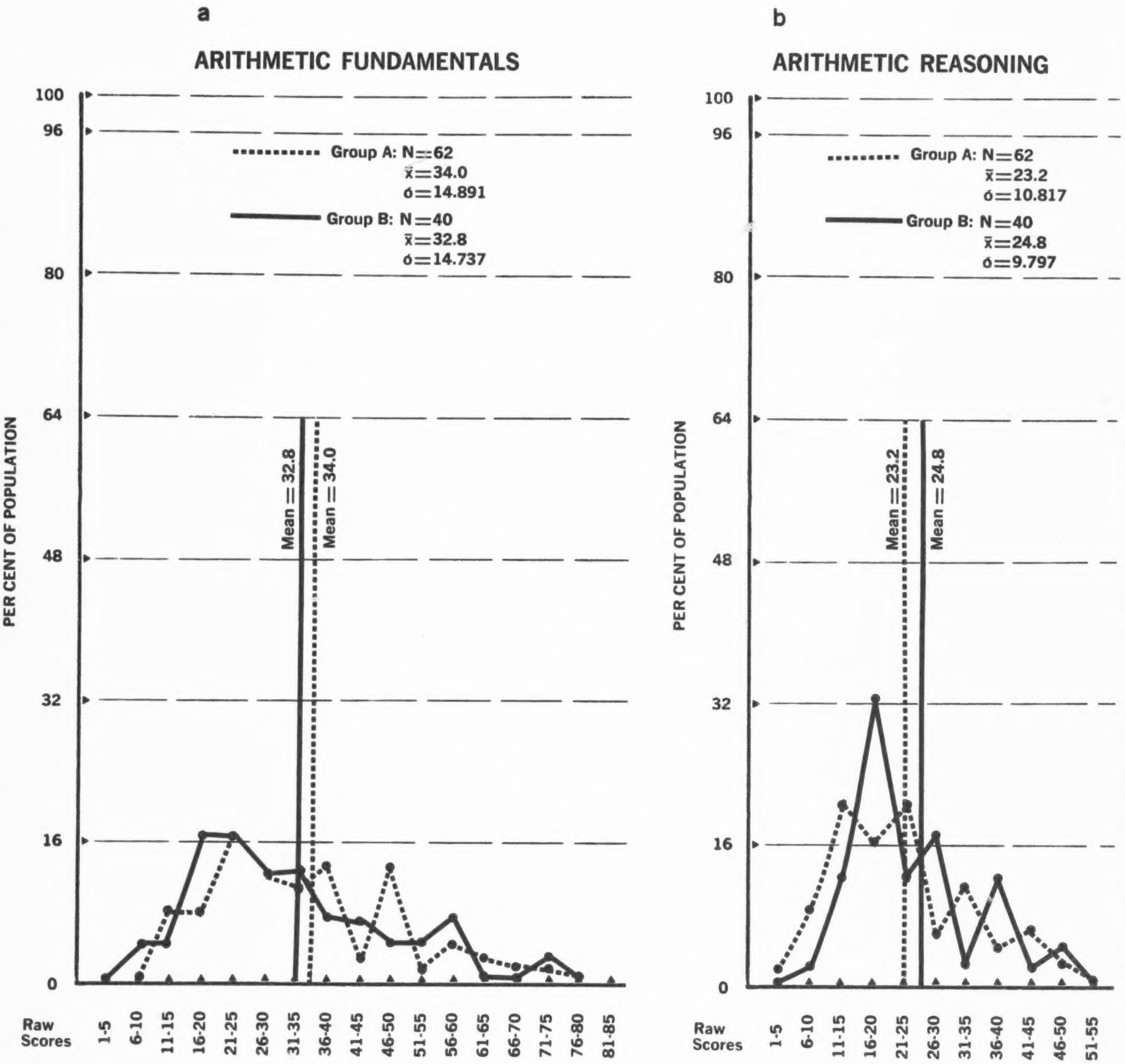


Figure 84

CAT DISTRIBUTION
by raw scores
ATTENDANCE

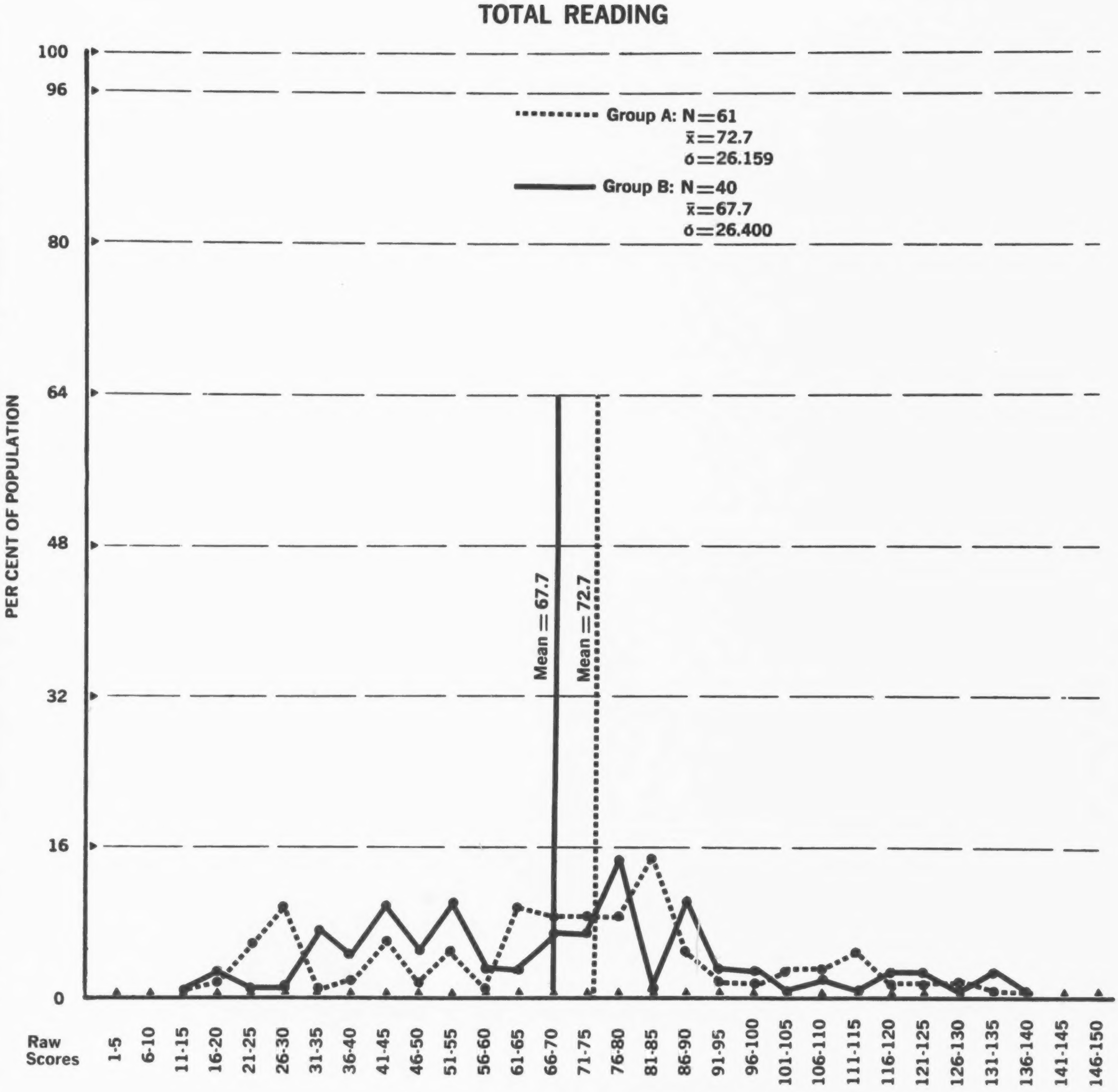
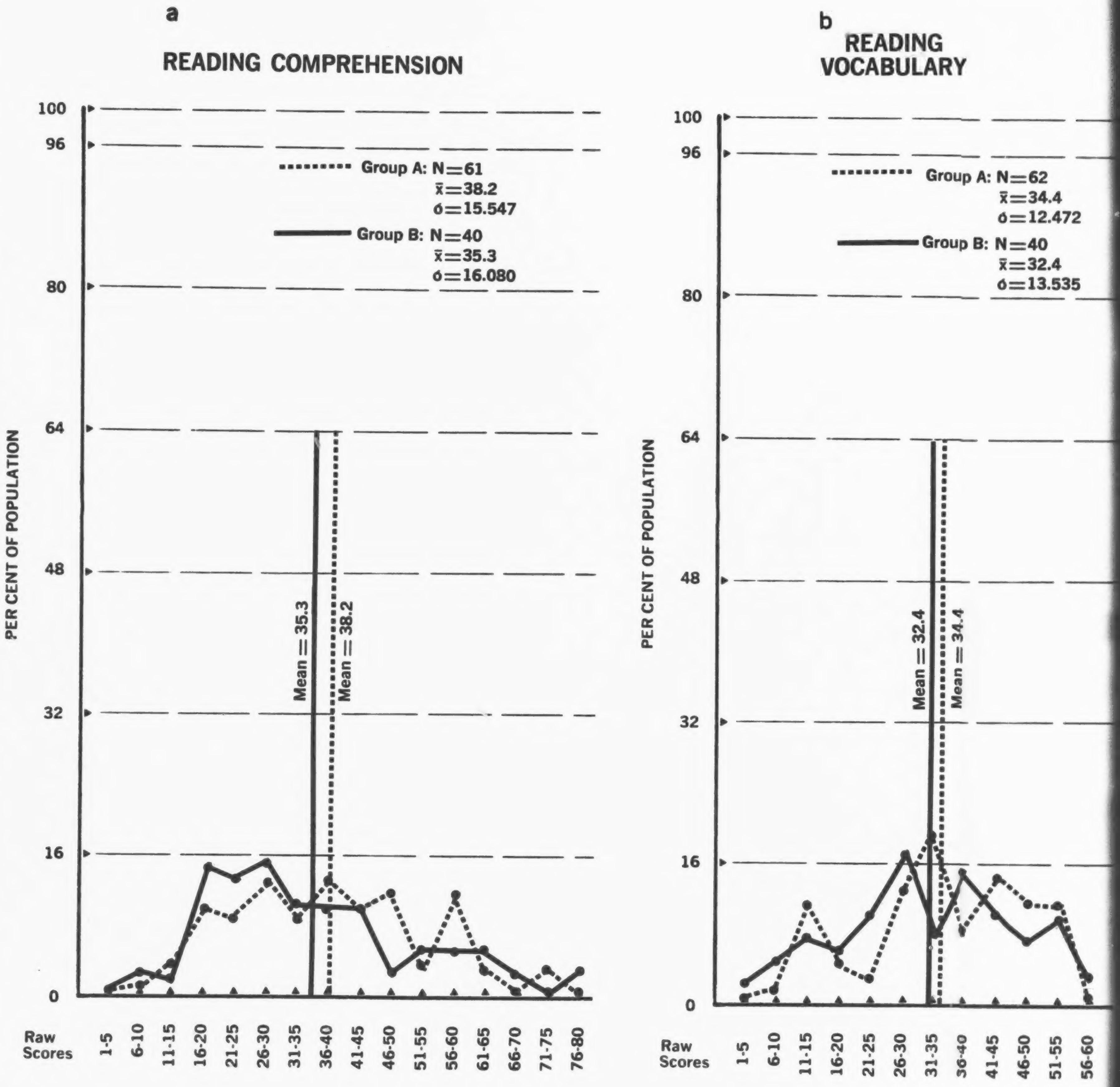


Figure 85

CAT DISTRIBUTION
by raw scores
ATTENDANCE


a
READING COMPREHENSION

b
READING VOCABULARY

Figure 86

CAT DISTRIBUTION
by raw scores
ATTENDANCE

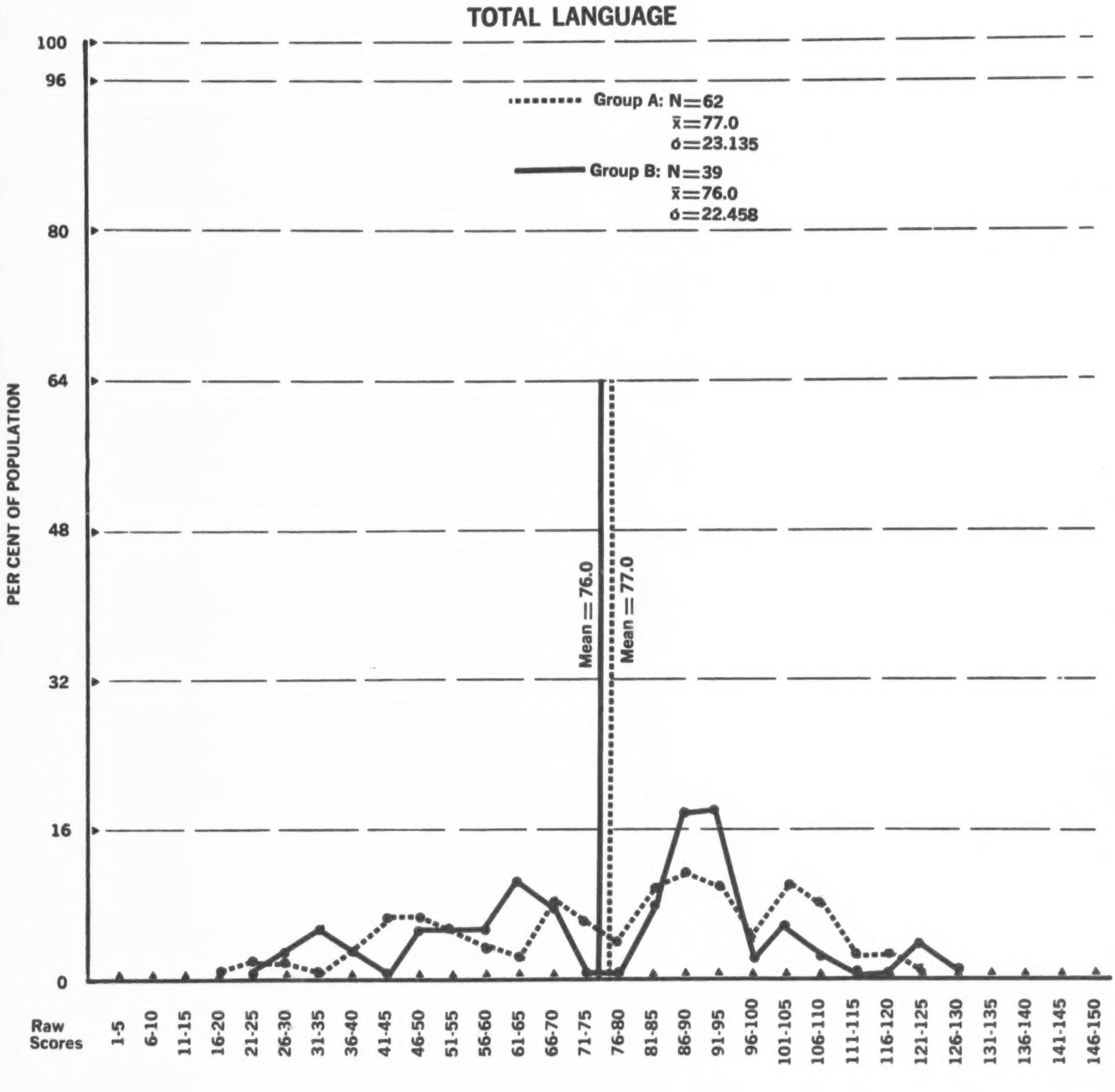
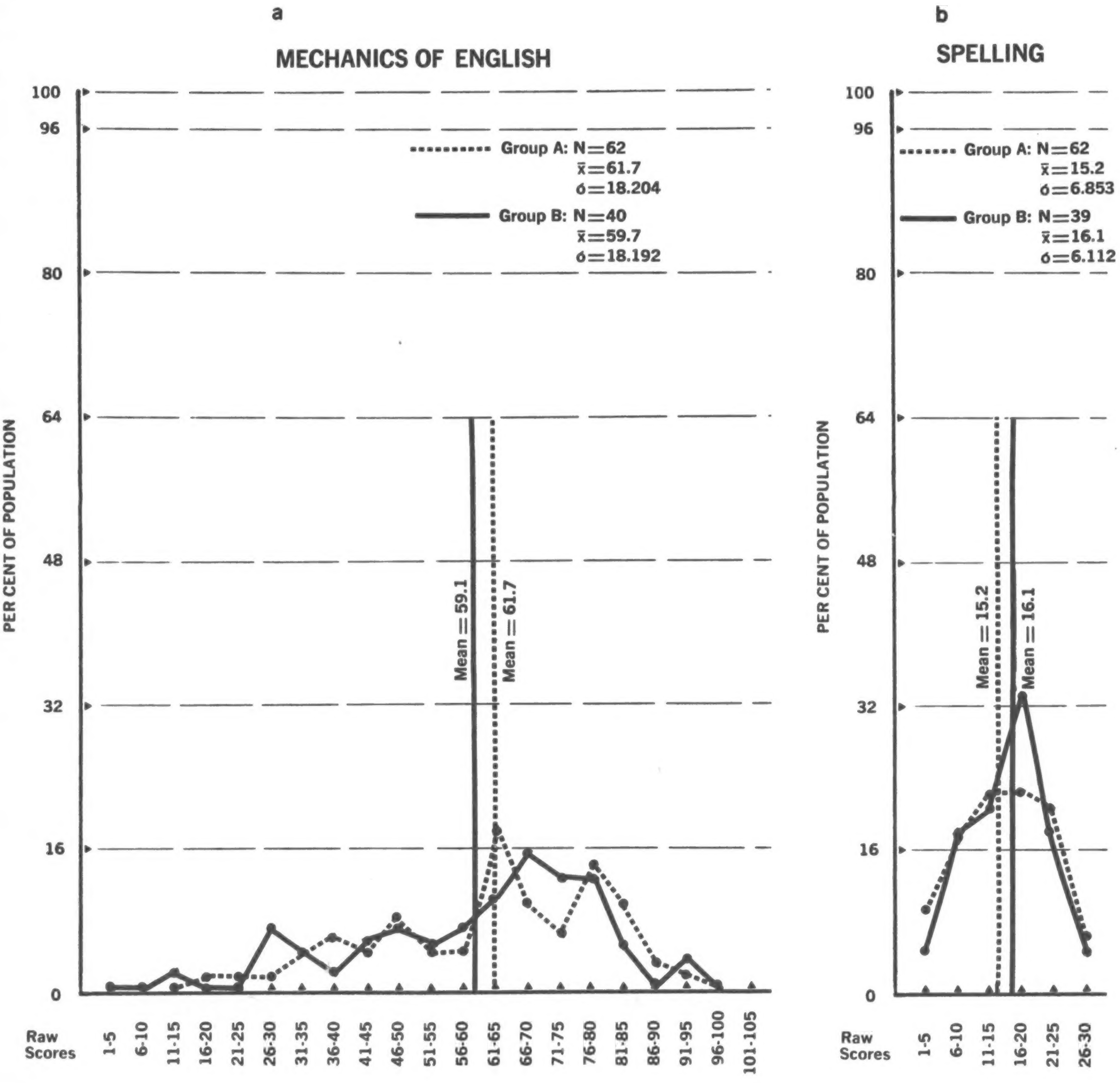


Figure 87

CAT DISTRIBUTION
by raw scores
ATTENDANCE



a

MECHANICS OF ENGLISH

b

SPELLING

	Male	Female	Possible
Arithmetic Fundamentals			
Range of Scores	10-75	5-65	5-75
Mean Scores	34.7	31.2	
Total Reading			
Range of Scores	25-135	15-120	0-150
Mean Scores	70.7	70.7	
Reading Comprehension			
Range of Scores	10-80	5-65	5-80
Mean Scores	37.5	36.1	
Reading Vocabulary			
Range of Scores	0-60	5-55	0-60
Mean Scores	33.1	34.6	
*Total Language			
Range of Scores	20-125	25-120	1-129
Mean Scores	73.4	83.4	
Mechanics of English			
Range of Scores	15-96	10-96	1-100
Mean Scores	58.8	65.3	
Spelling			
Range of Scores	0-30	0-30	0-30
Mean Scores	14.6	17.7	

*Chi square analysis revealed a significant difference (.05 level) between males and females on Total Language. ($X^2 = 9.28$, df = 3.)

ETHNIC GROUPING ANALYSIS

	ANGLO	MEXICAN-AMERICAN	POSSIBLE
Total Arithmetic			
Range of Scores	15-121	25-115	0-121
Mean Scores	60.5	50.3	

	ANGLO	MEXICAN-AMERICAN	POSSIBLE
Arithmetic Reasoning			
Range of Scores	0-50	10-50	0-55
Mean Scores	25.1	21.1	
Arithmetic Fundamentals			
Range of Scores	5-76	11-66	1-80
Mean Scores	35.4	29.2	
Total Reading			
Range of Scores	15-136	26-110	1-146
Mean Scores	72.9	66.3	
Reading Comprehension			
Range of Scores	6-81	15-61	6-81
Mean Scores	38.7	33.6	
Reading Vocabulary			
Range of Scores	0-60	6-56	0-60
Mean Scores	34.2	32.4	
Total Language			
Range of Scores	20-125	35-110	1-129
Mean Scores	76.7	76.1	
Mechanics of English			
Range of Scores	10-96	26-86	1-100
Mean Scores	61.2	60.3	
Spelling			
Range of Scores	0-30	0-30	0-30
Mean Scores	15.4	15.9	

While no significant differences were found between the Anglo and Mexican-American populations, in general, the mean scores obtained by the Anglos were higher than those of the Mexican-Americans.

3. The CAT as a Diagnostic Tool

It is possible to use the CAT as a diagnostic measure as well as an achievement measure. For Project purposes, diagnosis begins with an analysis of the subject area scores and proceeds through analyses of various sub-tests. The percentage of right responses to items on the CAT was compared to ninth grade population norms. (See Figure 88.) Comparisons to these norms were made for the Valley High population. For total population comparisons, see Figures 89 - 92. From these and other data which present analyses of learning difficulties in terms of sex (Figures 93 - 96), ethnic (Figures 97 - 100), and attendance groupings (Figures 101 - 104), it seems clear that the Valley High School population has the same strengths and weaknesses as does a normal junior high population, but at a lower level of proficiency. In effect, the line for the Valley High population follows the same pattern as that of the normal junior high population. The lower level of proficiency indicates greater learning difficulty for the Valley High student body. This line can be indicated as follows:

Area Scores	Percent Correct Responses, 9th Grade Norms	Percent Correct Responses, Valley High School
Reading Vocabulary	71	59
Reading Comprehension	67	42
Arithmetic Fundamentals	73	43

ATTENDANCE GROUPING	A GROUP	B GROUP	POSSIBLE
Total Arithmetic			
Range of Scores	15-120	25-115	1-135
Mean Scores	57.2	57.6	
Arithmetic Reasoning			
Range of Scores	0-50	0-50	0-50
Mean Scores	23.2	24.8	
Arithmetic Fundamentals			
Range of Scores	10-76	6-76	6-76
Mean Scores	34.0	32.8	
Total Reading			
Range of Scores	15-130	15-135	1-150
Mean Scores	72.7	67.7	
Reading Comprehension			
Range of Scores	5-75	5-80	1-85
Mean Scores	38.2	35.3	
Reading Vocabulary			
Range of Scores	5-55	0-60	0-60
Mean Scores	34.4	32.4	
Total Language			
Range of Scores	20-120	25-125	0-130
Mean Scores	77.0	76.0	
Mechanics of English			
Range of Scores	15-95	10-95	0-100
Mean Scores	61.7	59.7	
Spelling			
Range of Scores	0-30	0-30	0-30
Mean Scores	15.2	16.1	

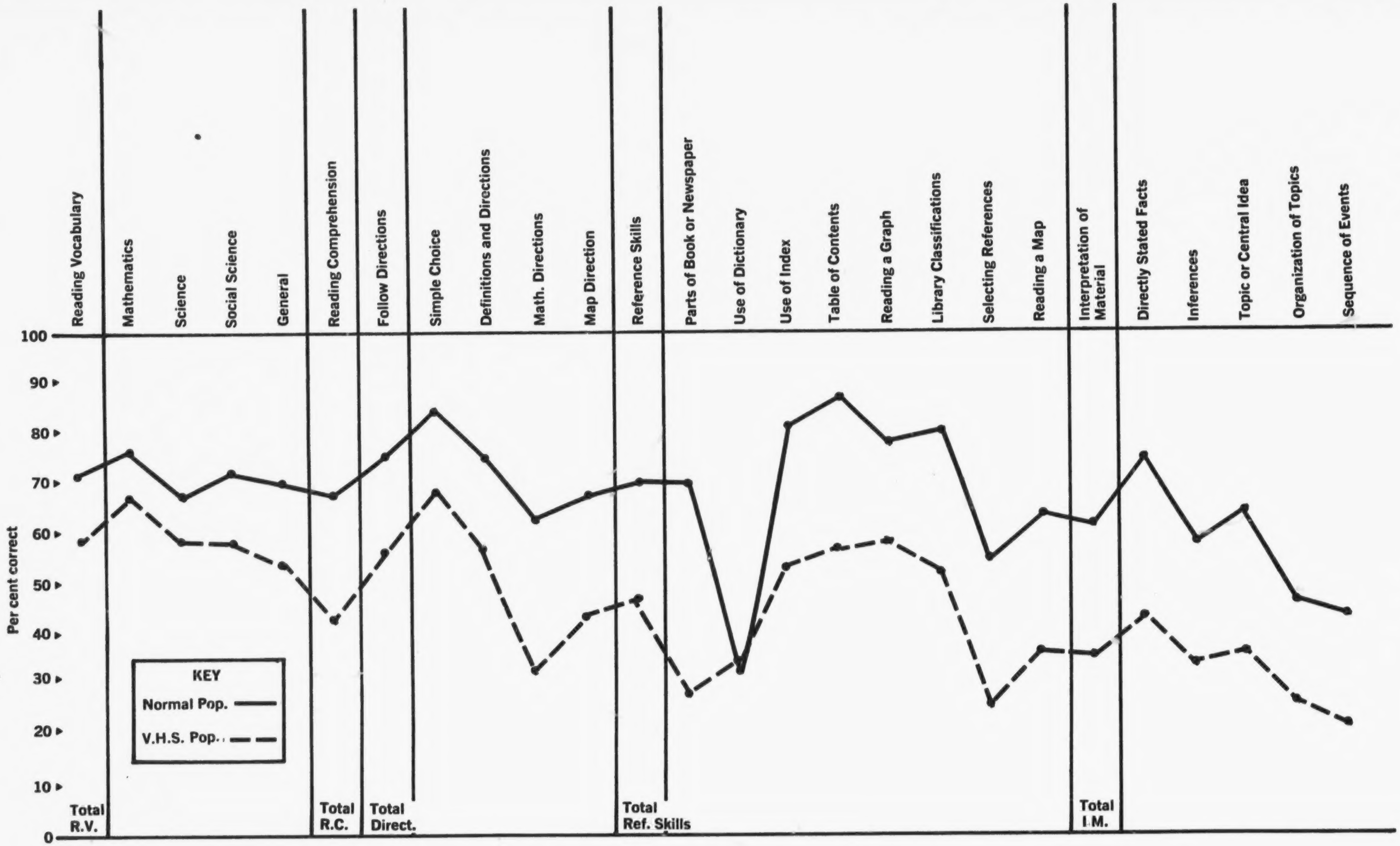
The above data indicate little or no difference between the scores achieved by the two attendance groupings.

Figure 88

PERCENT OF RIGHT RESPONSES TO ITEMS OF THE CALIFORNIA ACHIEVEMENT TESTS BY TEST, SECTION, AND DIAGNOSTIC CATEGORY

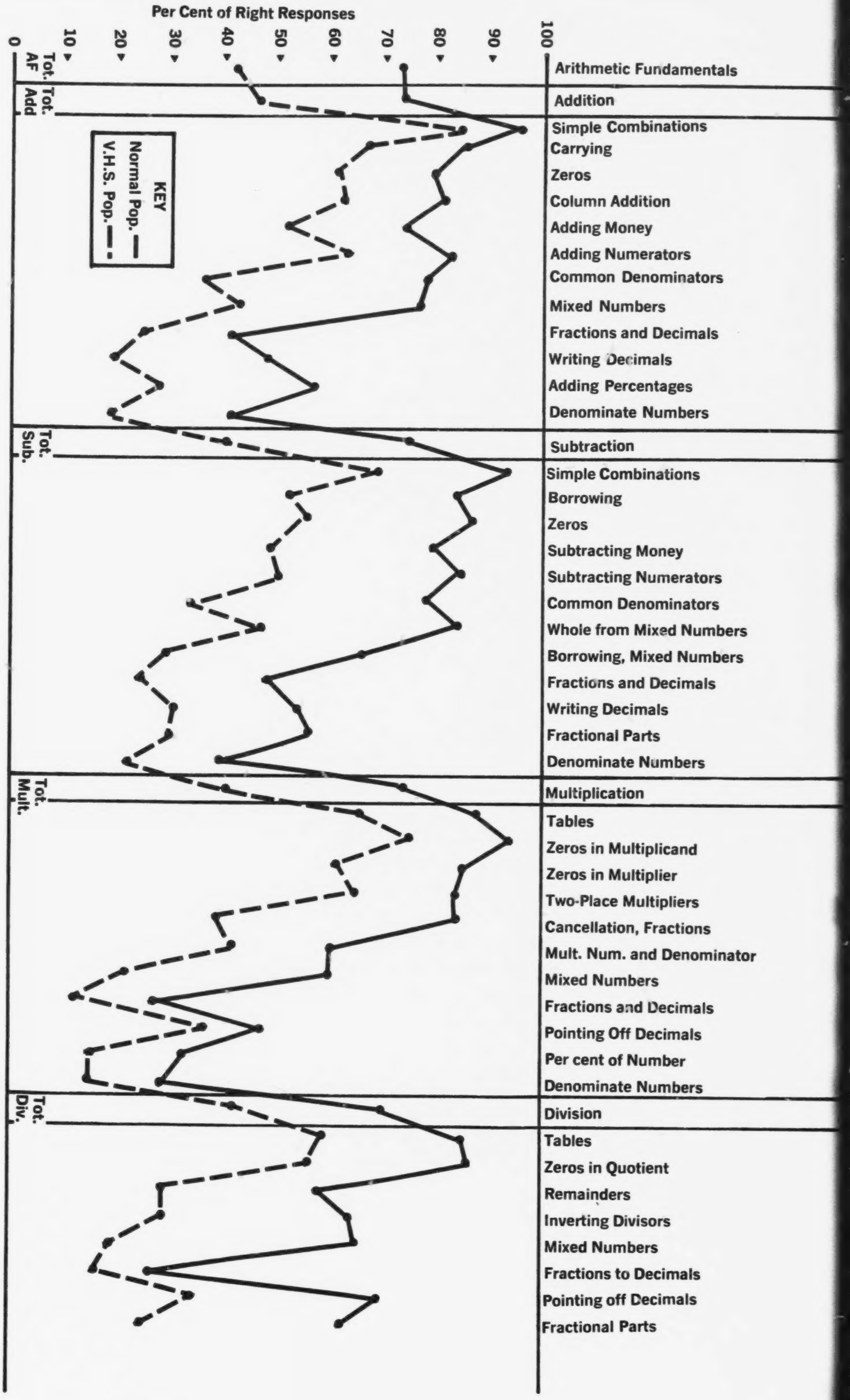
JUNIOR HIGH LEVEL

TEST, SECTION, AND CATEGORY	PERCENT OF RIGHT RESPONSES		
	Grade 7	Grade 8	Grade 9
1. Reading Vocabulary	54	66	71
A. Mathematics	56	68	76
B. Science	51	66	67
C. Social Science	54	65	72
D. General	55	65	70
2. Reading Comprehension	49	59	67
E. Following Directions	58	65	75
Simple Choice	73	79	84
Definitions and Directions	59	67	75
Math. Directions	28	33	62
Map Direction	43	55	68
F. Reference Skills	55	66	70
Parts of Book or Newspaper	63	71	70
Use of Dictionary	27	39	33
Use of Index	64	73	81
Table of Contents	75	81	87
Reading a Graph	68	77	78
Library Classifications	57	74	80
Selecting References	34	45	55
Reading a Map	41	59	64
G. Interpretation of Material	42	52	62
Directly Stated Facts	57	67	75
Inferences	37	47	58
Topic or Central Idea	47	55	64
Organization of Topics	25	39	46
Sequence of Events	23	34	43
3. Arithmetic Reasoning	43	55	66
A. Meanings	66	72	77
Writing Numbers	81	82	88
Writing Money	70	72	79
Writing Percent	79	90	97
Roman Numerals	63	69	70
Whole Numbers	93	97	98
Fractions and Decimals	47	64	71
Exponents	14	18	17
B. Symbols, Rules, and Equations	35	51	64
Symbols	44	58	77
Vocabulary	38	62	68
Rules and Formulas	18	31	48
Negative Numbers	34	47	51
Solving Equations	41	59	73
C. Problems	35	46	58
Two-Step	60	70	82
Sharing and Averaging	51	66	79
Square and Cubic Measure	35	46	61
Ratio	57	73	67
Percentage	16	28	41
Commission and Discount	17	21	33
4. Arithmetic Fundamentals	52	64	73
D. Addition	55	65	74
Simple Combinations	94	92	96
Carrying	78	81	85
Zeros	68	73	79
Column Addition	74	77	82
Adding Money	57	66	74
Adding Numerators	70	83	83
Common Denominators	50	65	78
Mixed Numbers	53	68	77
Fractions and Decimals	15	34	41
Writing Decimals	13	26	48
Adding Percentages	19	37	57
Denominate Numbers	10	26	41
E. Subtraction	53	66	75
Simple Combinations	87	89	94
Borrowing	68	76	84
Zeros	75	80	87
Subtracting Money	59	69	79
Subtracting Numerators	69	80	85
Common Denominators	51	64	78
Whole from Mixed Numbers	66	81	84
Borrowing, Mixed Numbers	31	54	66
Fractions and Decimals	20	42	48
Writing Decimals	19	42	54
Fractional Parts	20	43	56
Denominate Numbers	11	30	39
F. Multiplication	54	66	74
Tables	79	83	87
Zeros in Multiplicand	89	93	94
Zeros in Multiplier	72	77	85
Two-Place Multipliers	76	81	84
Cancellation, Fractions	42	72	84
Mult. Num. and Denominator	37	55	60
Mixed Numbers	20	44	60
Fractions and Decimals	8	18	27
Pointing off Decimals	23	42	47
Percent of Number	5	14	32
Denominate Numbers	7	17	29
G. Division	44	60	70
Tables	75	81	85
Zeros in Quotient	77	82	86
Remainders	35	50	58
Inverting Divisors	25	49	64
Mixed Numbers	13	38	55
Fractions to Decimals	10	27	26
Pointing off Decimals	28	52	69
Fractional Parts	25	48	62
5. Mechanics of English	63	74	76
A. Capitalization	71	82	83
Title of Book	71	80	82
Names of Persons	77	85	88
Titles of Persons	74	83	81
Names of Places	76	90	86
Pronoun "I"	86	95	95
First Words of Sentences	62	74	78
Days	71	78	83
First Words of Quotations	41	55	57
Special Day	86	91	91
Omits Over-Capitalization	76	87	89
B. Punctuation	52	66	68
Commas	62	75	77
Apostrophes	55	68	77
Question Marks	55	72	70
Quotation Marks	22	36	33
Quotation within Quot.	9	15	19
Omits Over-Punctuation	52	65	68
C. Word Usage	66	74	77
Good Usage	77	80	81
Tense	73	79	78
Parts of Speech	68	76	77
Number	69	75	78
Case	62	66	63
Recognizing Sentences	54	69	78
6. Spelling	56	64	68



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES — READING TESTS
TOTAL POPULATION

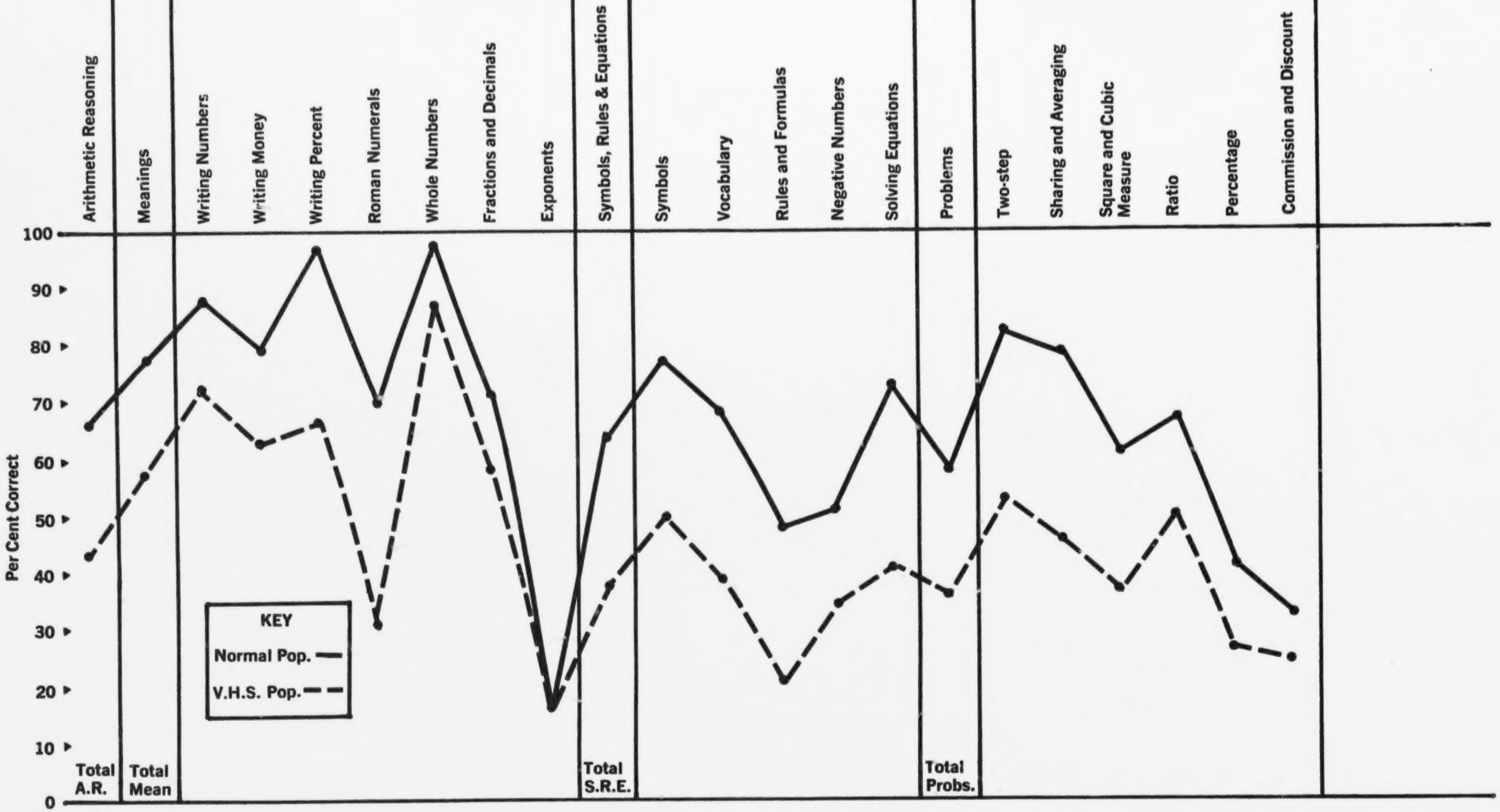
Figure 89



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC FUNDAMENTALS

TOTAL POPULATION

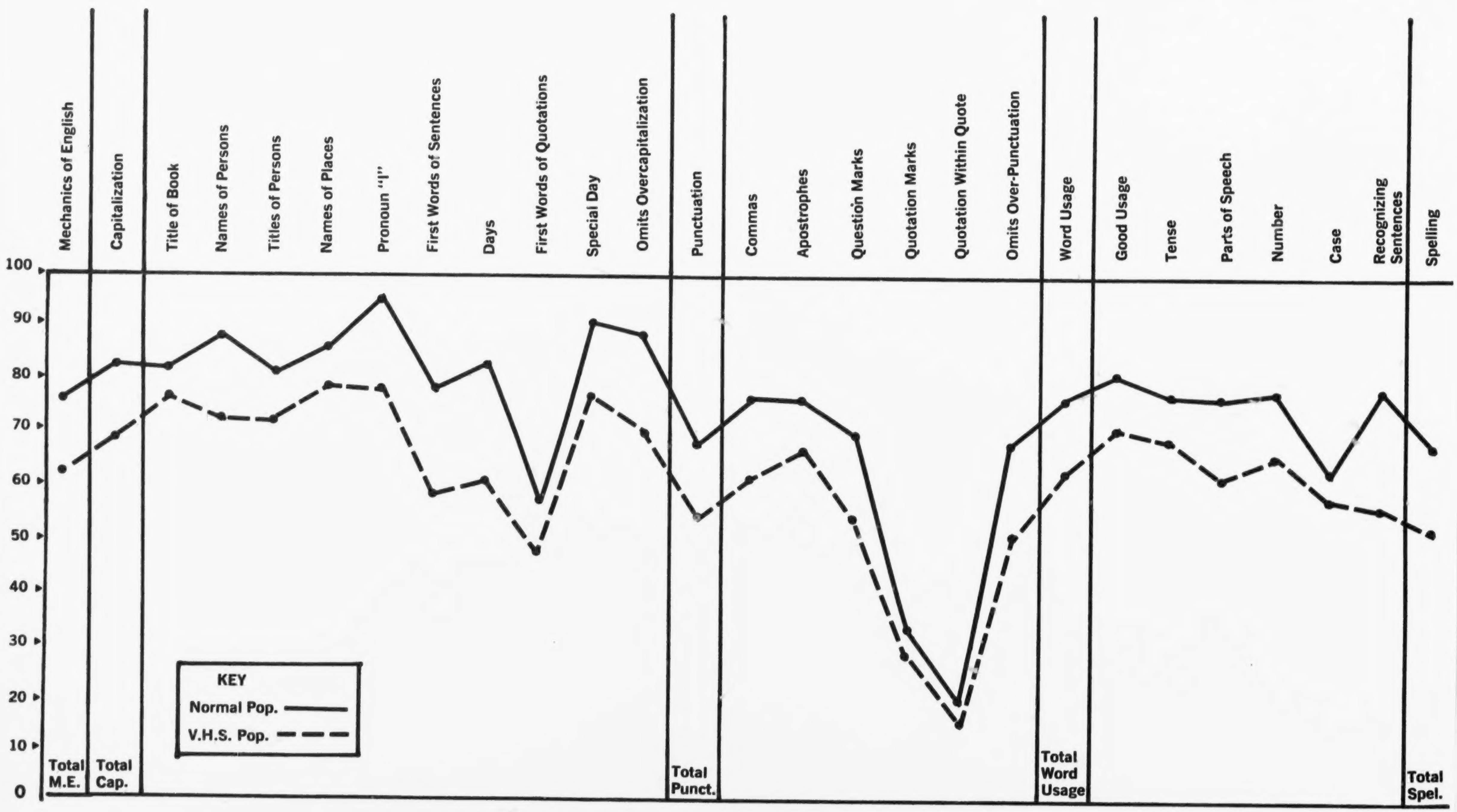
Figure 90



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC REASONING

TOTAL POPULATION

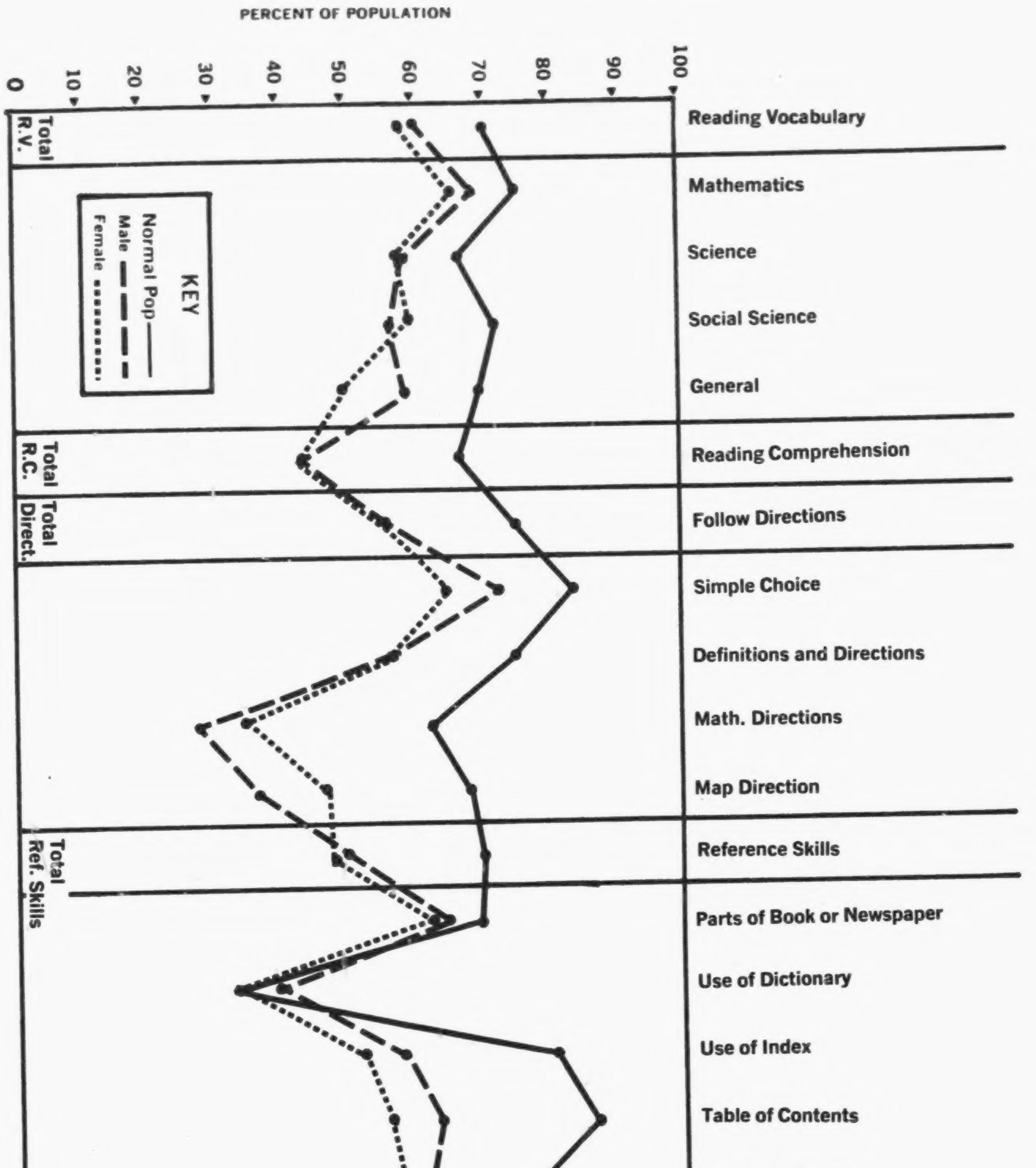
Figure 91



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—LANGUAGE TESTS

TOTAL VHS POPULATION

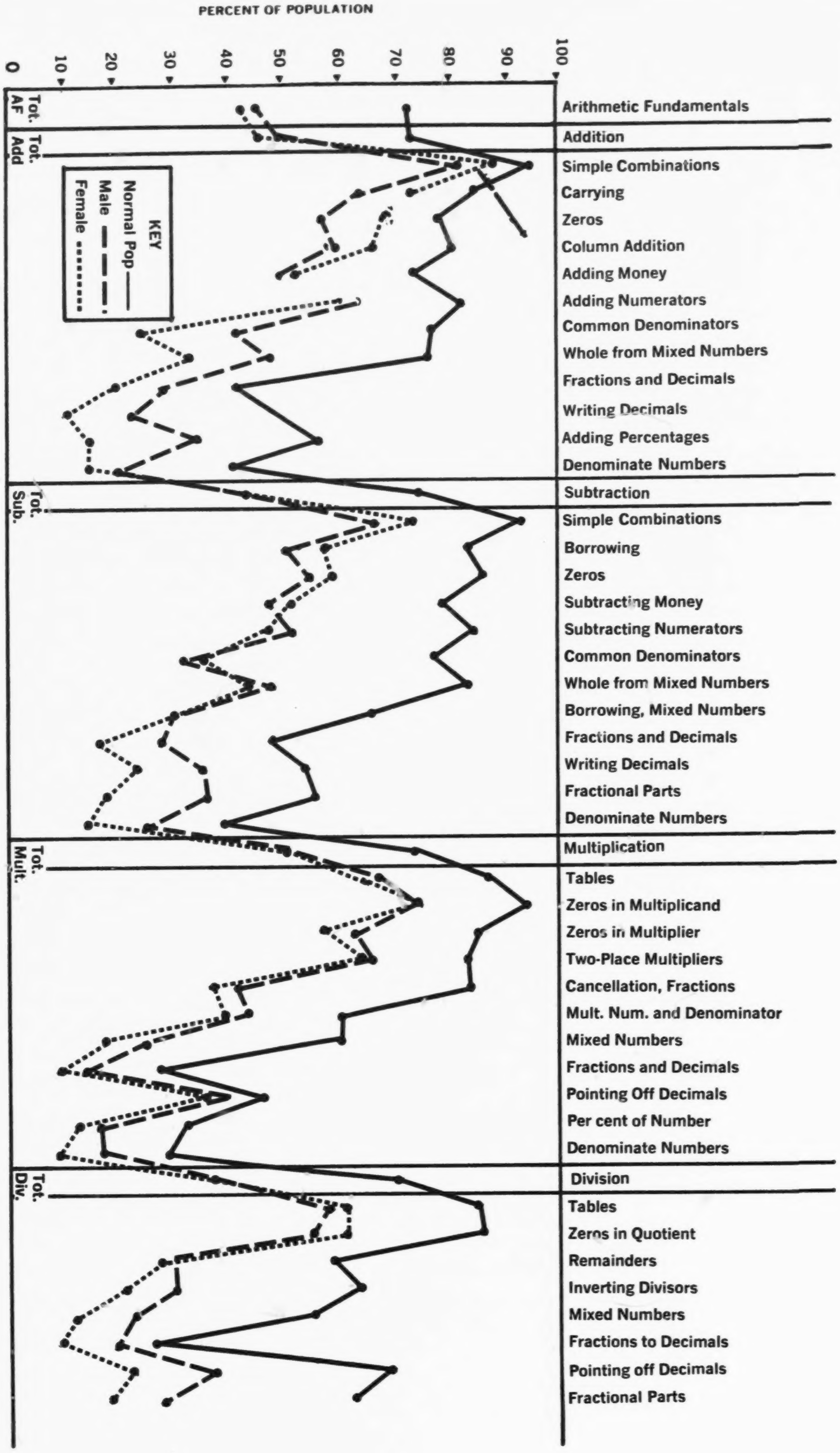
Figure 92



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—READING TESTS

SEX

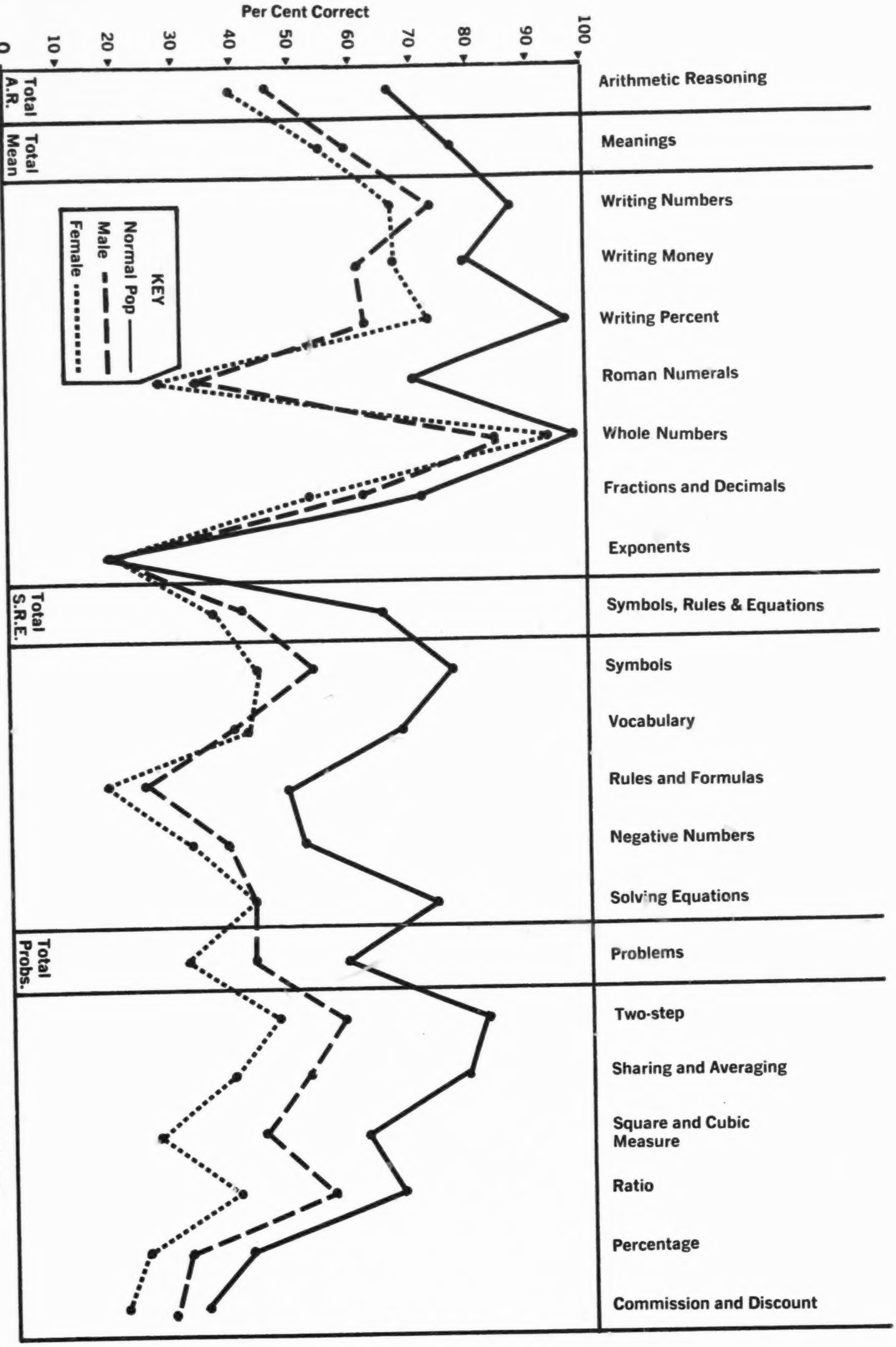
Figure 93



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC FUNDAMENTALS

SEX

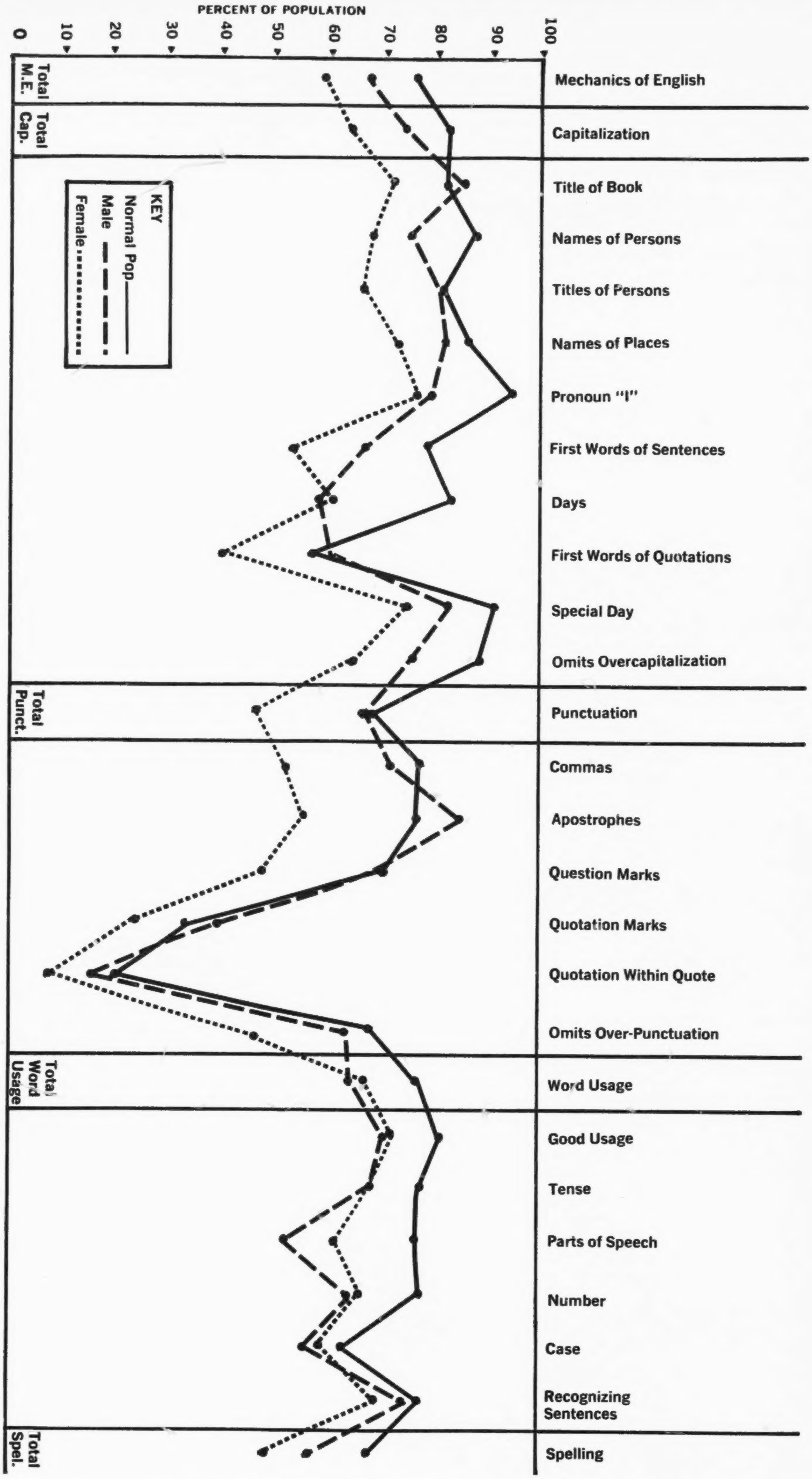
Figure 94



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC REASONING

SEX

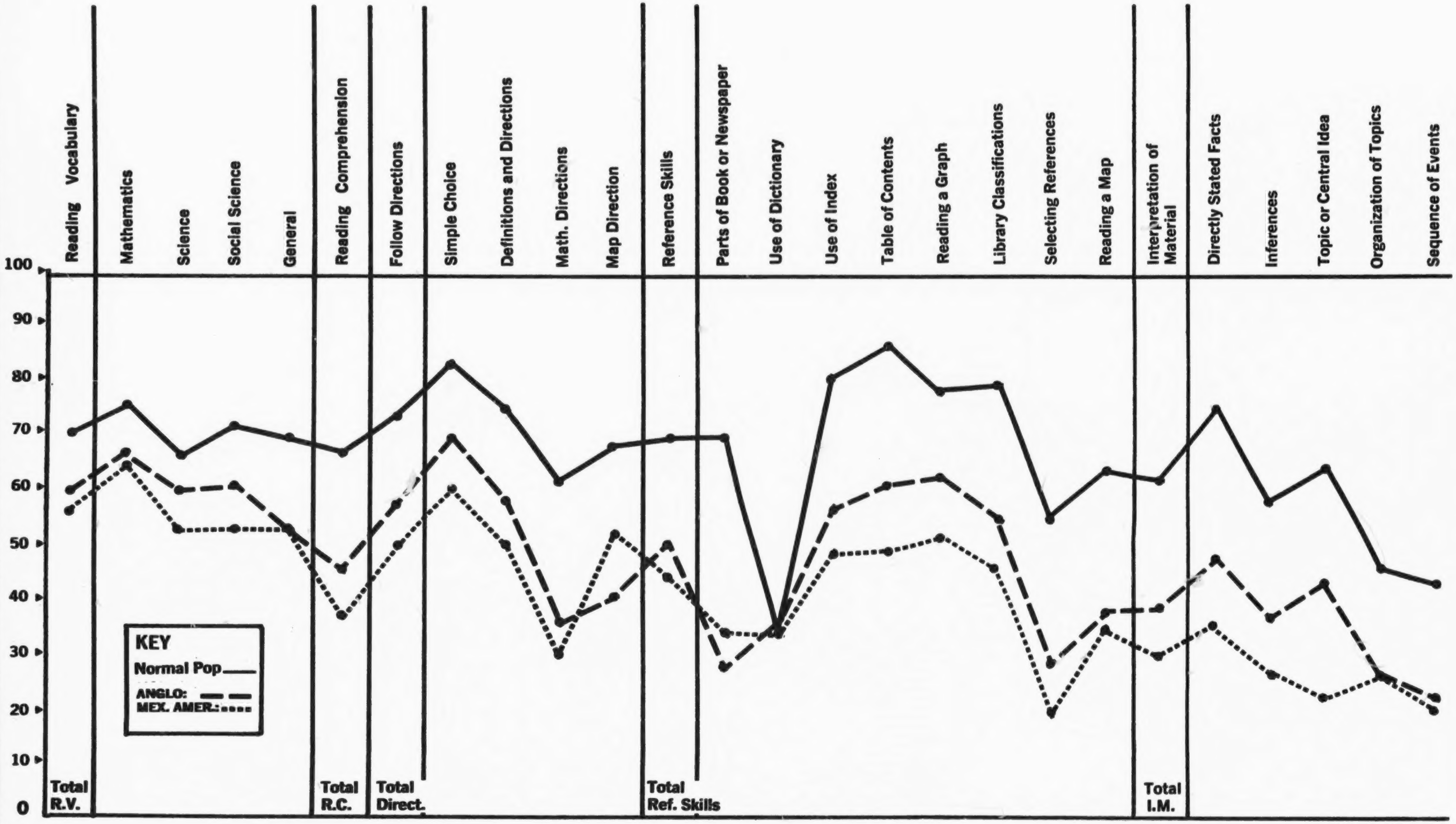
Figure 95



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—LANGUAGE TESTS

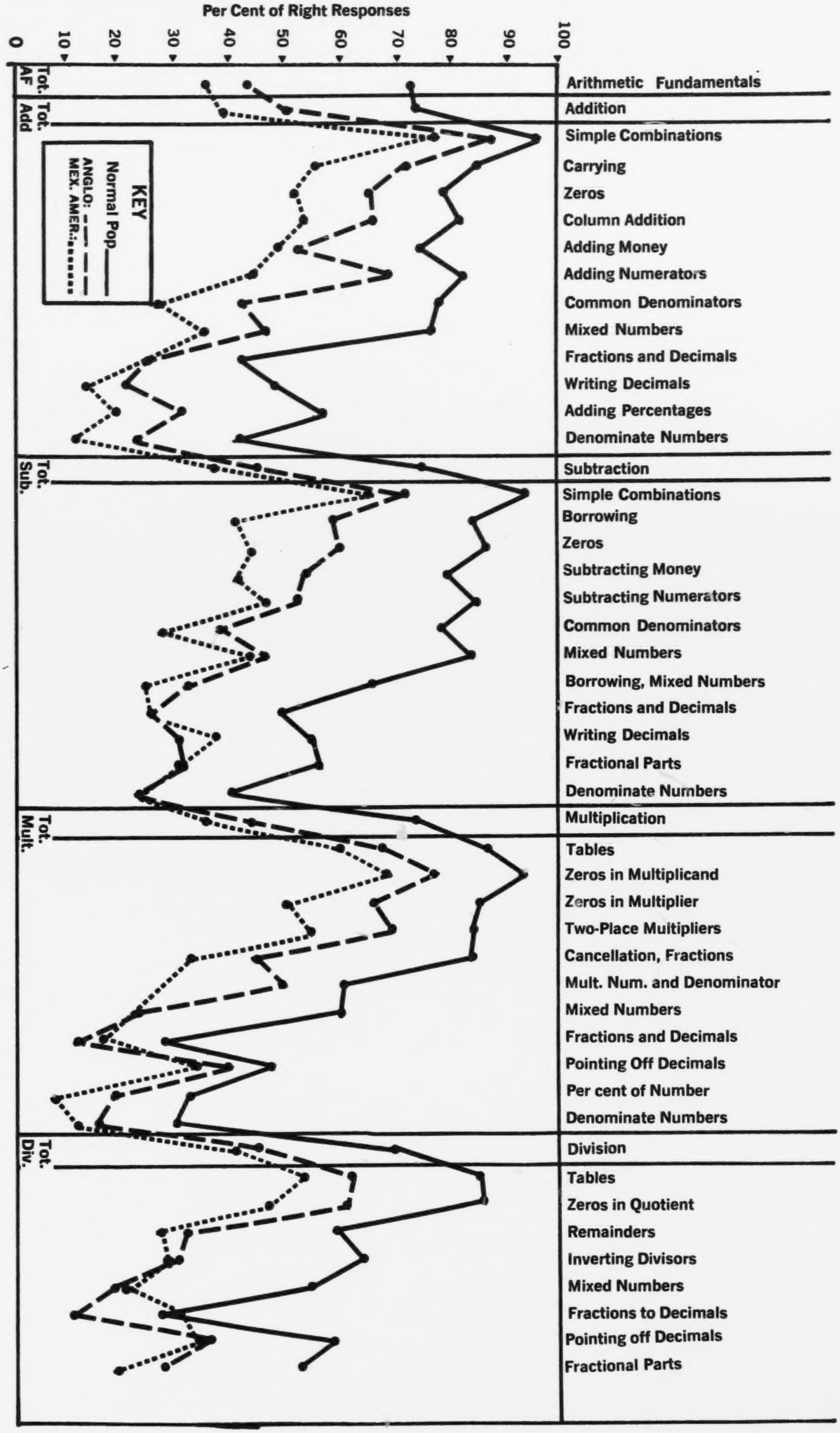
SEX

Figure 96



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—READING TESTS
ETHNIC

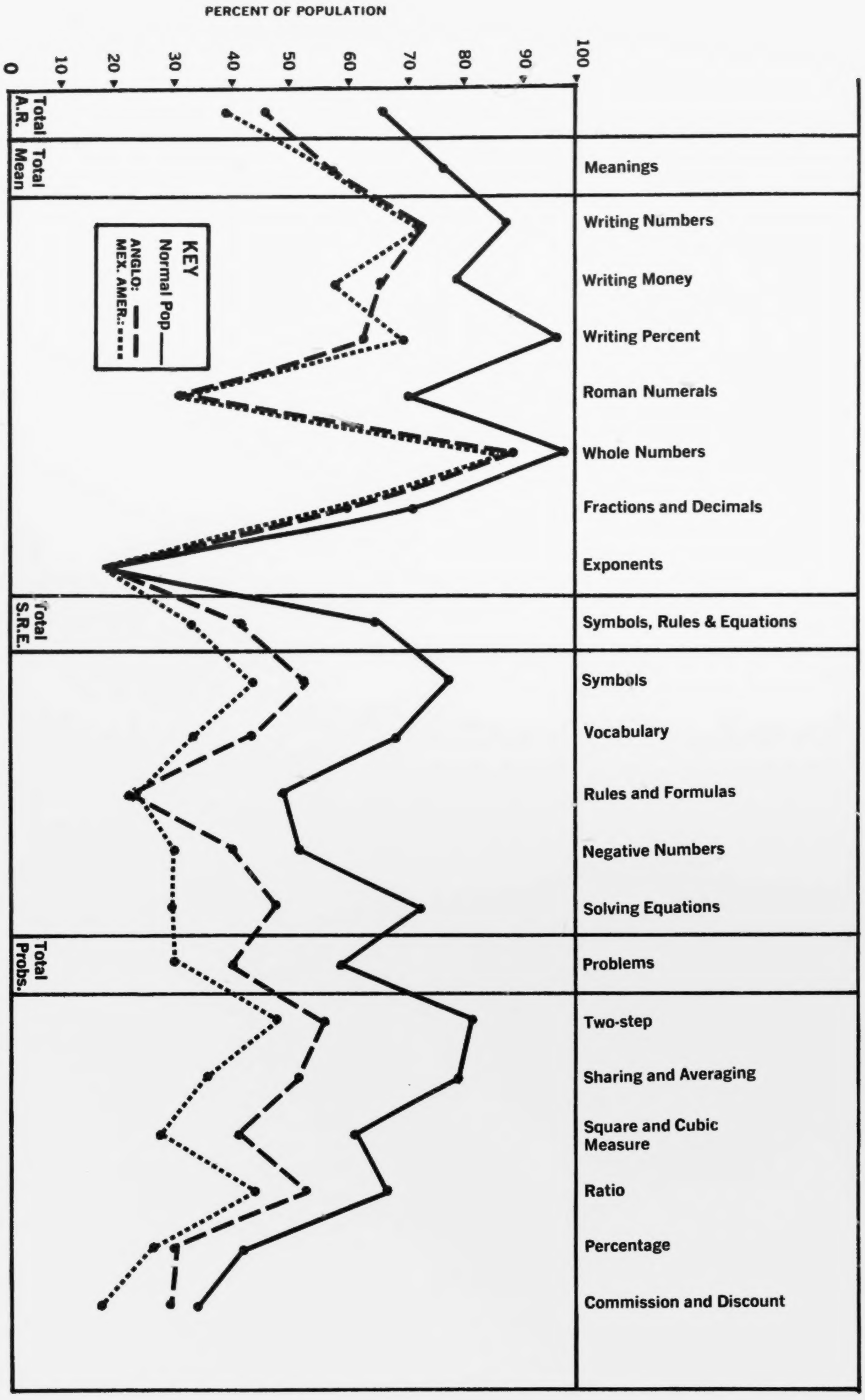
Figure 97



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC FUNDAMENTALS

ETHNIC

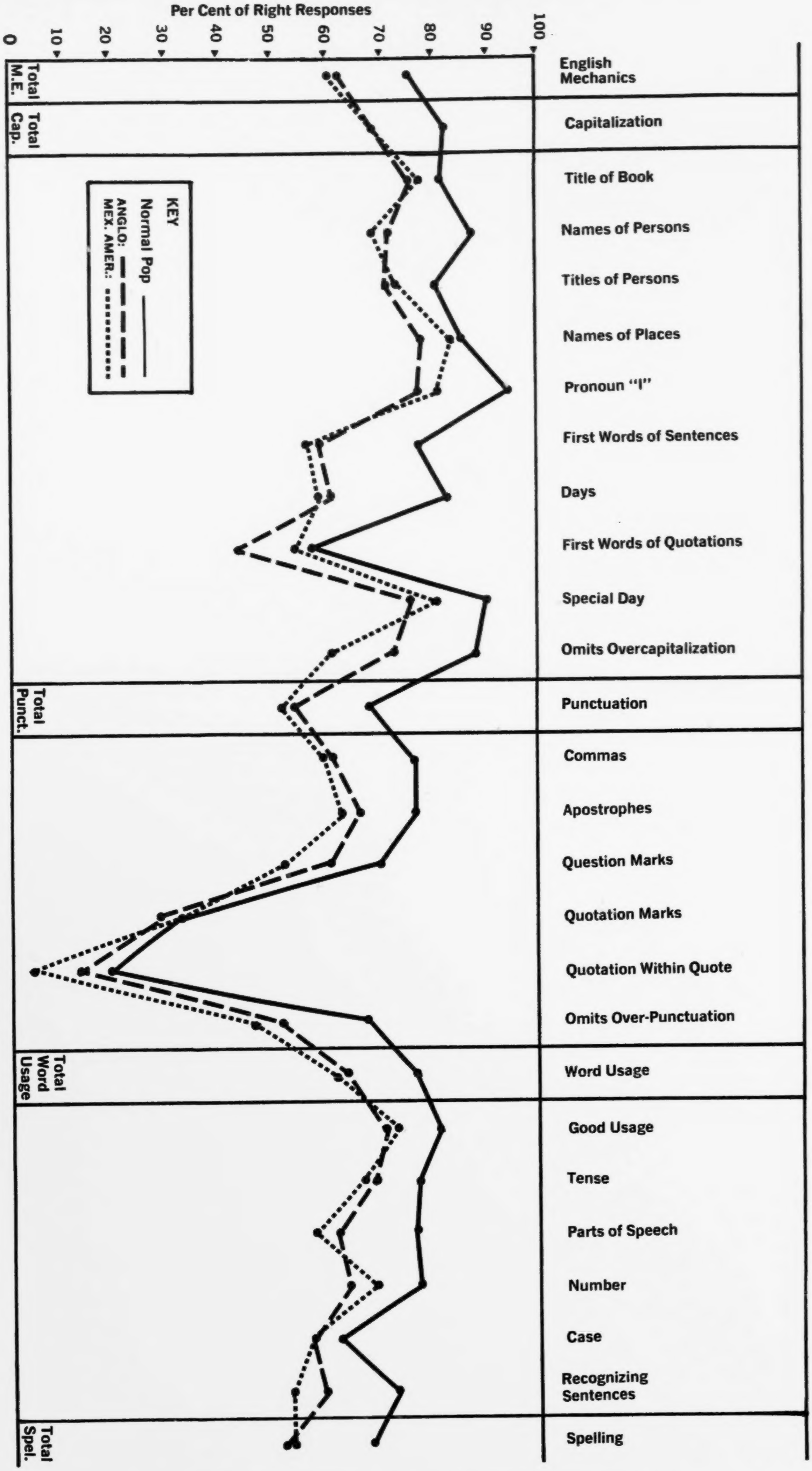
Figure 98



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC REASONING

ETHNIC

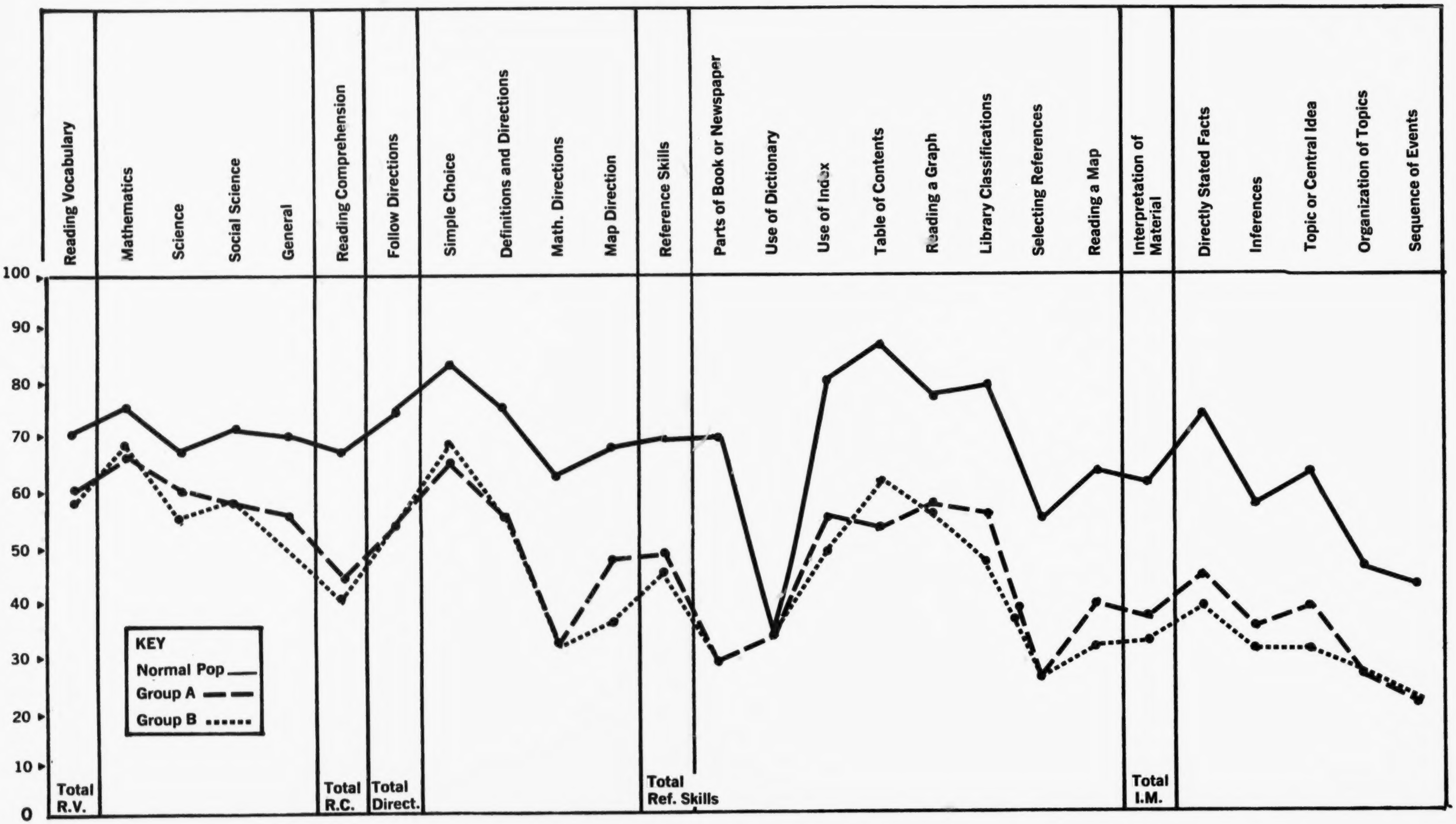
Figure 99



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—LANGUAGE TESTS

ETHNIC

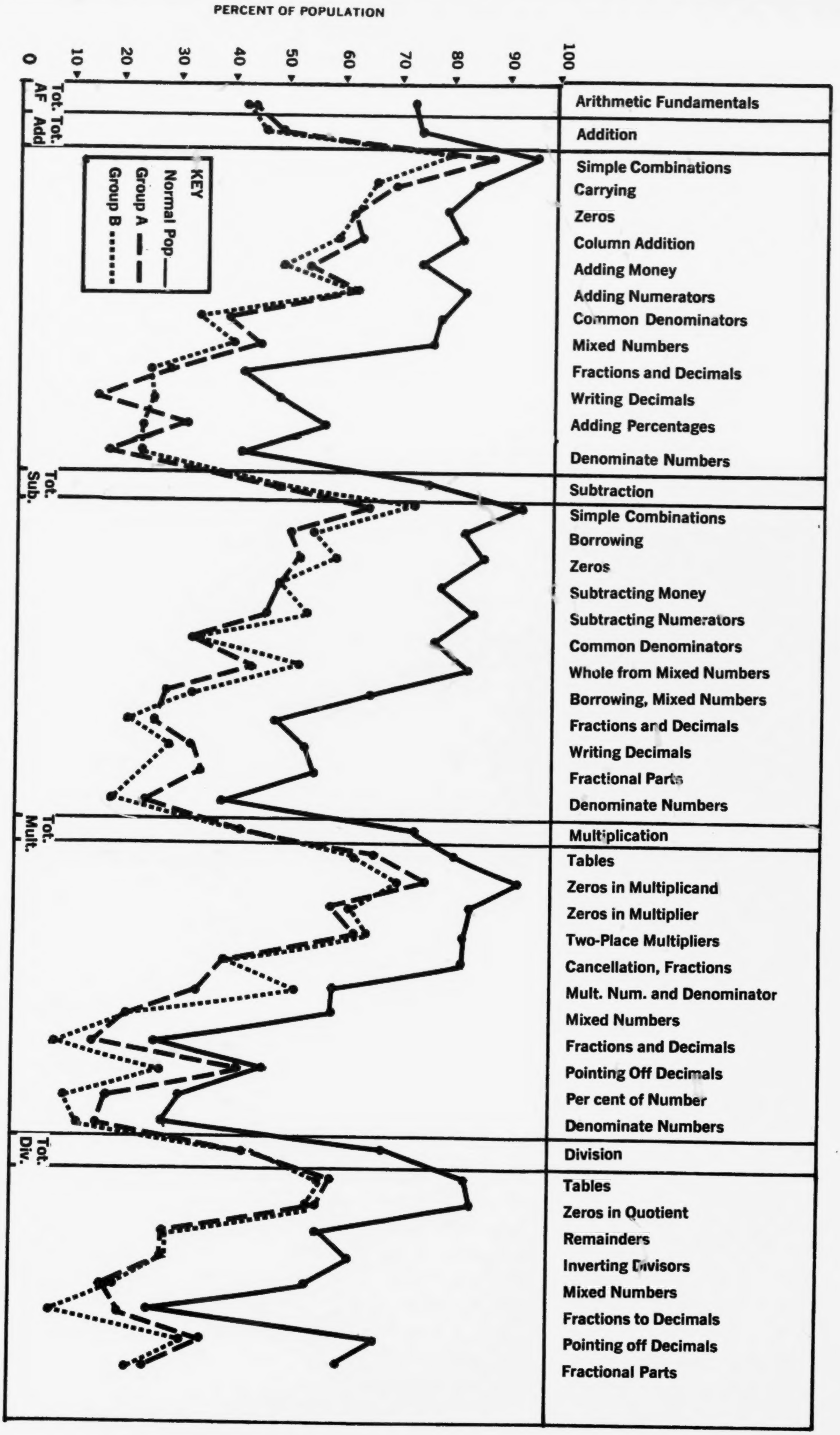
Figure 100



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—READING TESTS

ATTENDANCE

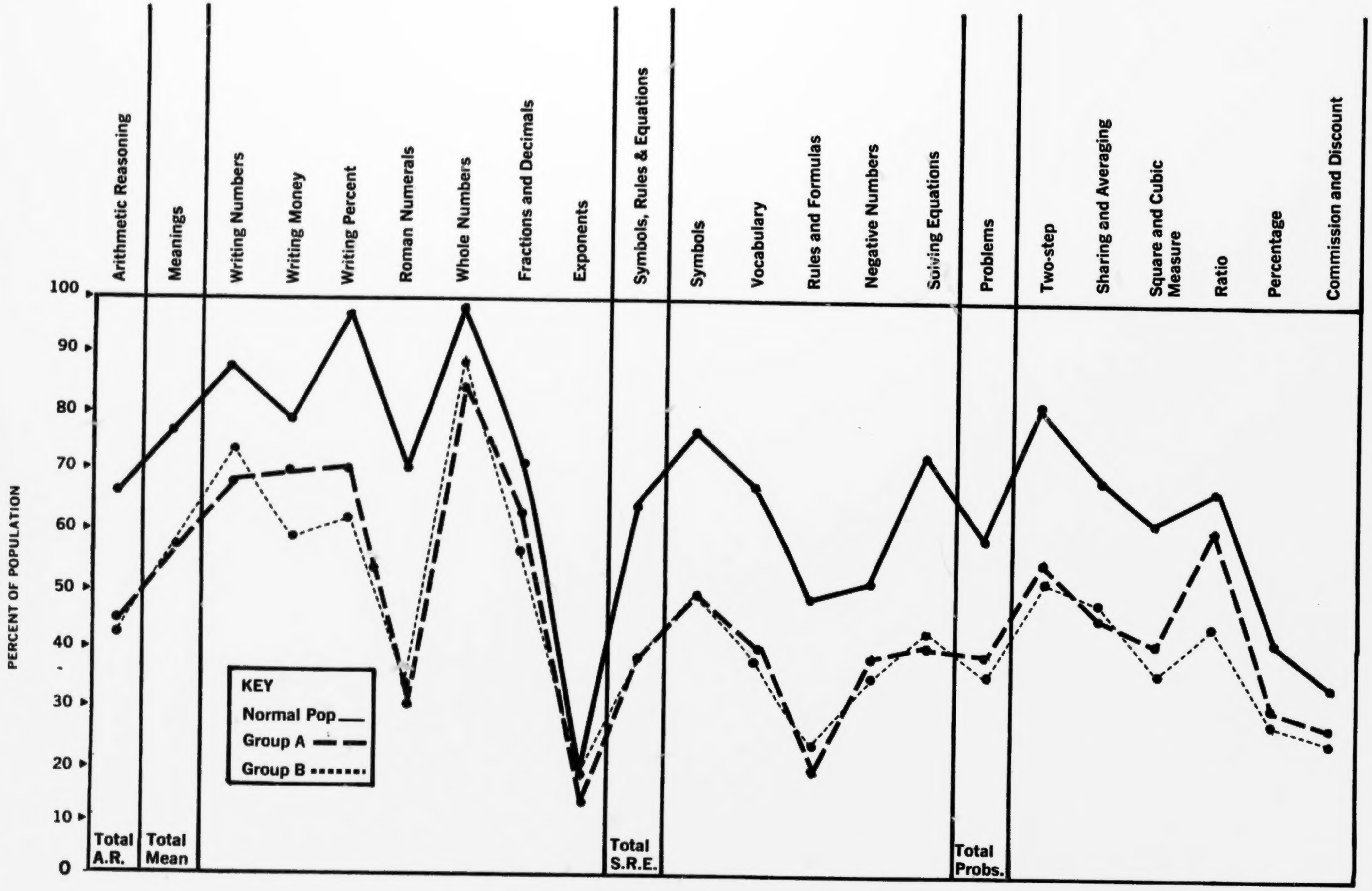
Figure 101



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC FUNDAMENTALS

ATTENDANCE

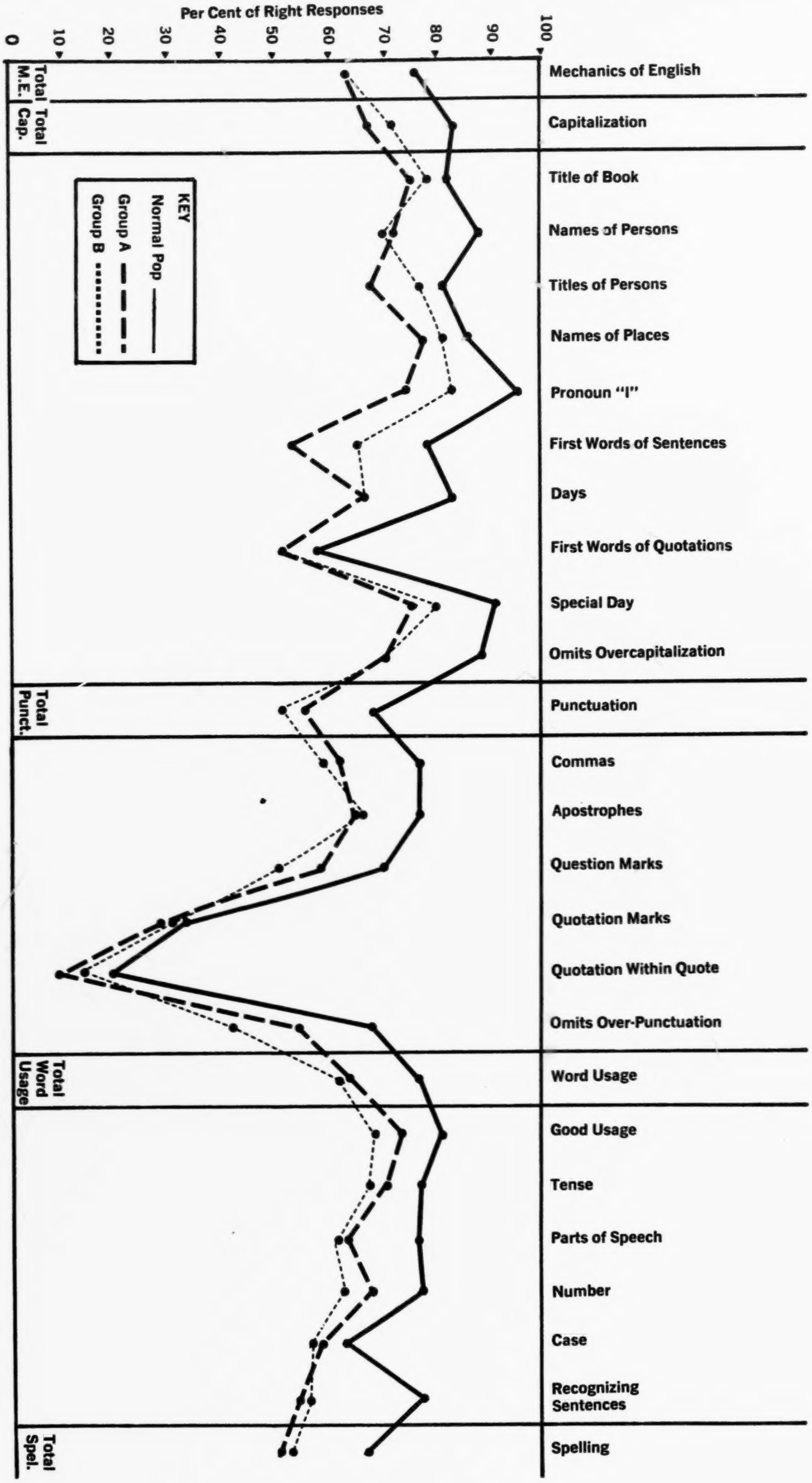
Figure 102



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—ARITHMETIC REASONING

ATTENDANCE

Figure 103



CAT DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES—LANGUAGE TESTS
ATTENDANCE GROUPS
Figure 104

Area Scores	Percent Correct Responses, 9th Grade Norms	Percent Correct Responses, Valley High School
Arithmetic Reasoning	66	43
Language:		
Mechanics of English	76	62
Spelling	68	52

The following chart compares learning difficulty by sex, ethnic and attendance test population sub-groups with the CAT norms established by the junior high school population:

SEX

Area Scores	Percent Correct Responses 9th Grade Norm	Percent Correct Responses-Males	Percent Correct Responses-Females
Reading Vocabulary	71	59	61
Reading Comprehension	67	44	43
Arithmetic Reasoning	66	45	39
Arithmetic Fundamentals	73	46	43
Language:			
Mechanics of English	76	59	68
Spelling	68	49	56

ETHNIC

Area Scores	9th Grade Norms	Anglo	Mexican-American
Reading Vocabulary	71	60	56
Reading Comprehension	67	55	37
Arithmetic Fundamentals	73	43	35

ETHNIC (Continued)

Area Scores	9th Grade Norms	Anglo	Mexican-American
Arithmetic Reasoning	66	45	38
Language:			
Mechanics of English	76	62	61
Spelling	68	52	53

ATTENDANCE

Area Scores	9th Grade Norms	Group A	Group B
Reading Vocabulary	71	60	58
Reading Comprehension	67	43	40
Arithmetic Fundamentals	73	43	41
Arithmetic Reasoning	66	42	44
Language:			
Mechanics of English	76	63	63
Spelling	68	52	54

C. The General Aptitude Test Battery (GATB)

According to the GATB Manual, the revised battery consists of twelve tests measuring nine aptitudes. These nine aptitudes were identified by factor analysis studies of over fifty tests that had been used over a period of years, and twelve tests were chosen which would give an adequate measure of all nine aptitudes. In some instances, more than one test is used to provide for an adequate measure of a certain aptitude. The score for "G" or Intelligence, for example, is obtained from three tests, and the Numerical Ability or "N" score is obtained from two tests, while the Verbal Ability or "V" score is obtained from only one test. Of the twelve tests, eight are paper-and-pencil tests and four are apparatus tests. The items for the paper-and-pencil tests were selected and arranged in order of difficulty after item analysis studies had been conducted to determine the difficulty level and discriminating power of each item. All of the paper-and-pencil tests except the Motor Coordination test are administered with separate answer sheets which can be scored with an IBM scoring machine.

The nine aptitudes measured by the GATB are G or Intelligence, V or Verbal Ability, N or Numerical Ability, S or Spatial Ability, P or Form Perception, Q or Clerical Perception, K or Motor Coordination, F or Finger Dexterity, and M or Manual Dexterity. The reliability coefficients for these nine aptitudes range from 0.81 to 0.93. These coefficients were obtained by the test-retest method. In other words, the reliability coefficient in each instance is above 0.80, which may be regarded as an acceptable reliability coefficient.

1. Aptitudes Measured by the GATB

The nine aptitudes measured by the GATB are listed below. The letter used as the symbol to identify each aptitude and the part or parts of the GATB measuring each aptitude are also shown.

Aptitude	Tests
G-Intelligence	Part 3-Three-Dimensional Space Part 4-Vocabulary Part 6-Arithmetic Reason
V-Verbal Aptitude	Part 4-Vocabulary
N-Numerical Aptitude	Part 2-Computation Part 6-Arithmetic Reason
S-Spatial Aptitude	Part 3-Three-Dimensional Space
P-Form Perception	Part 5-Tool Matching Part 7-Form Matching
Q-Clerical Perception	Part 1-Name Comparison
K-Motor Coordination	Part 8-Mark Making
F-Finger Dexterity	Part 11-Assemble Part 12-Disassemble
M-Manual Dexterity	Part 9-Place Part 10-Turn

The following are the definitions of the nine aptitudes measured by the GATB:

G-Intelligence.-General learning ability. The ability to "catch on" or understand instructions and underlying principles; the ability to reason and make judgments. Closely related to doing well in school. Measured by Parts 3, 4, and 6.

V-Verbal Aptitude.-The ability to understand meaning of words and to use them effectively. The ability to comprehend language, to understand relationships between words and to understand meanings of whole sentences and paragraphs. Measured by Part 4.

N-Numerical Aptitude.-Ability to perform arithmetic operations quickly and accurately. Measured by Parts 2 and 6.

S-Spatial Aptitude.-Ability to think visually of geometric forms and to comprehend the two-dimensional representation of three-dimensional objects. The ability to recognize the relationships resulting from the movement of objects in space. Measured by Part 3.

P-Form Perception.-Ability to perceive pertinent detail in objects or in pictorial or graphic material. Ability to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines. Measured by Parts 5 and 7.

Q-Clerical Perception.-Ability to perceive pertinent detail in verbal or tabular material. Ability to observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetic computation. Measured by Part 1.

K-Motor Coordination.-Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and swiftly. Measured by Part 8.

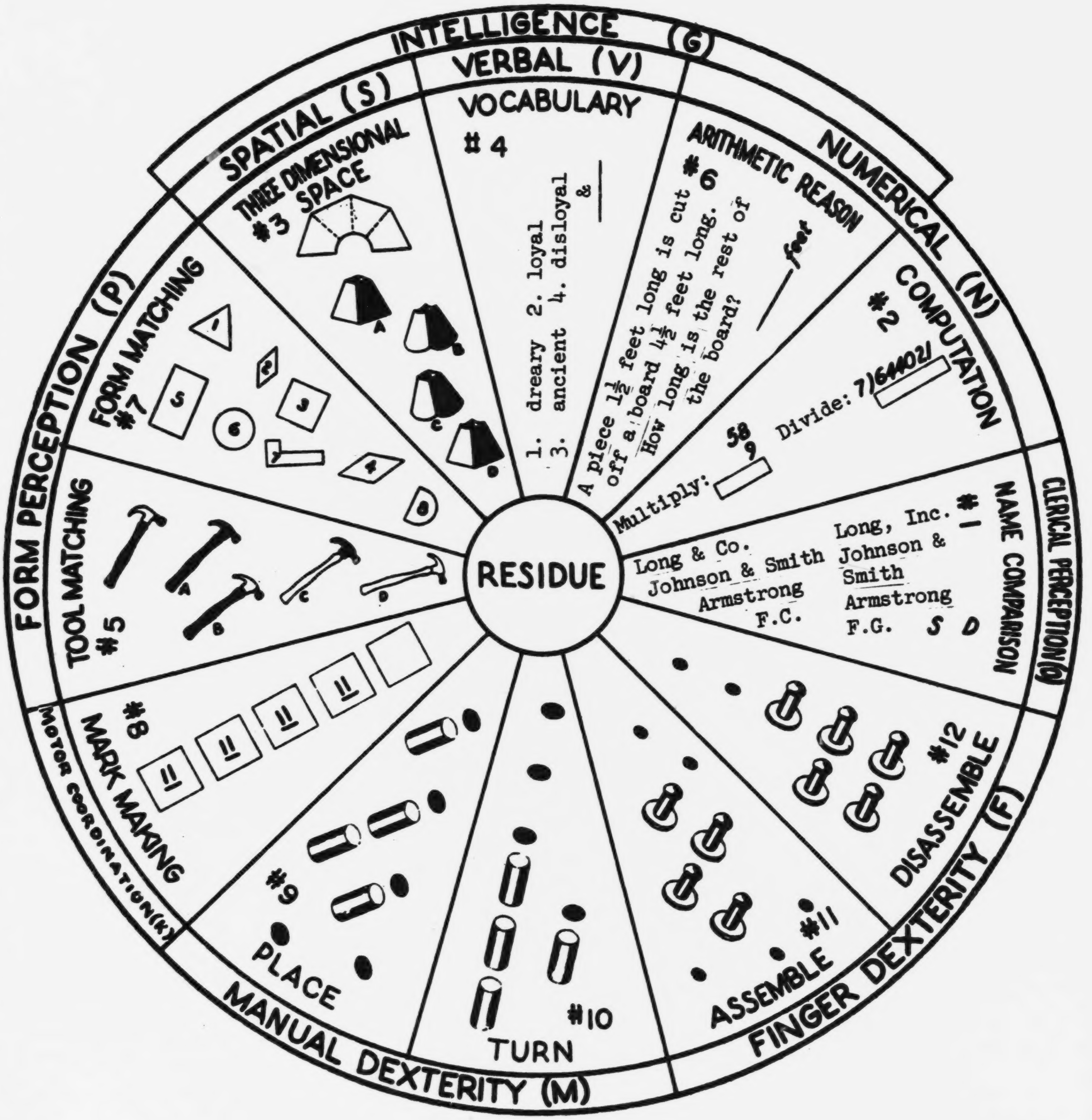
F-Finger Dexterity.-Ability to move the fingers, and manipulate small objects with the fingers, rapidly or accurately. Measured by Parts 11 and 12.

M-Manual Dexterity.-Ability to move the hands easily and skillfully. Ability to work with the hands in placing and turning motions. Measured by Parts 9 and 10.

2. Who Is Referred for the GATB?

The GATB is administered to applicants who have not yet chosen a field of work or who are uncertain as to the wisdom of their choice. Among the groups usually tested are (1) high school graduates with no specialized training; (2) young people who are uncertain as to their abilities; (3) experienced workers who want to or must change their

NINE APTITUDES MEASURED BY TWELVE TESTS IN THE GENERAL APTITUDE TEST BATTERY B-1002


INTELLIGENCE (G)
VERBAL (V)
VOCABULARY
#4
1. dreary 2. loyal
3. ancient 4. disloyal
& ___
NUMERICAL (N)
ARITHMETIC REASON
#6
A piece 1½ feet long is cut off a board 4½ feet long. How long is the rest of the board?
___ feet
COMPUTATION
#2
Divide: 7)64402
Multiply: 58
9
CLERICAL PERCEPTION (Q)
NAME COMPARISON
#1
Long & Co. Long, Inc.
Johnson & Smith Johnson & Smith
Armstrong Armstrong
F.C. F.G.
S D
FINGER DEXTERITY (F)
DISASSEMBLE
#12
ASSEMBLE
#11
MANUAL DEXTERITY (M)
TURN
#10
PLACE
#9
MOTOR COORDINATION (K)
MARK MAKING
#8
FORM PERCEPTION (P)
TOOL MATCHING
#5
A
B
C
D
FORM MATCHING
#7
1
2
3
4
5
6
7
8
SPATIAL (S)
THREE DIMENSIONAL SPACE
#3
A
B
C
D
RESIDUE

field of work; (4) any applicant who has not discovered his aptitudes through training or experience; (5) any applicant suspected of having untapped abilities; and, (6) those with a number of interests and who have difficulty in choosing among a number of seemingly suitable fields.

The base population for the GATB general working population norms study is the employed labor force in the age range of eighteen to fifty-four, as recorded in the 1940 census report and adjusted on the basis of the 1950 census report. The mean age for the norming sample was 30.4 years with a standard deviation of 9.9; the mean education was 11.0 years with a standard deviation of 2.6. According to the census data, the median educational level for the general working population is 10.2 years for males, and 11.7 years for females. (U.S. Department of Commerce, Bureau of the Census, 1949.) The Manual for the General Aptitude Test Battery, Section III, 1967, states that adult aptitude norms should be used with high school juniors and seniors and for out-of-school youth; adult norms should be used with those who are at least sixteen years.

The mean standard score for all aptitudes measured by the GATB is 100.00 for the normal population. For the Valley High population means are as follows:

Aptitude	Valley High Mean (Total Pop.)
Intelligence	84.43
Verbal	85.27
Numerical	78.28
Spatial	100.23*
Form Perception	98.12
Clerical Perception	94.88
Motor Coordination	90.39
Finger Dexterity	90.95
Manual Dexterity	94.65

*This mean may reflect the fact that men tend to score higher on spatial aptitude than do women. Since the ratio at Valley High School is approximately three males to one female, the 100.23 mean score may respresent the male bias more than a developed spatial aptitude.

3. Score Distribution of Valley High Population As Compared With the Normal Population:

The following charts compare the Valley High test population to the normal in terms of performance on the various sections in the GATB.

	Standard Scores	Valley High Students	Normal Population
Intelligence (G)	50-70	15.1%	6.0%
	70-90	54.0%	24.0%
	90-110	26.4%	40.0%
	110-130	3.6%	24.0%
	130-150	0.0%	6.0%
Verbal (V)	50-70	5.3%	6.0%
	70-90	51.5%	24.0%
	90-110	31.8%	40.0%
	110-130	0.0%	24.0%
	130-150	0.0%	6.0%

	Standard Scores	Valley High Students	Normal Population
Numerical (N)	50-70	33.6%	6.0%
	70-90	32.0%	24.0%
	90-110	22.1%	40.0%
	110-130	3.2%	24.0%
	130-150	0.0%	6.0%
Spatial (S)	50-70	2.0%	6.0%
	70-90	40.2%	24.0%
	90-110	30.4%	40.0%
	110-130	23.6%	24.0%
	130-150	2.9%	6.0%
Form Perception (P)	50-70	4.7%	6.0%
	70-90	29.2%	24.0%
	90-110	41.2%	40.0%
	110-130	21.2%	24.0%
	130-150	4.7%	6.0%
Clerical Perception (Q)	50-70	1.9%	6.0%
	70-90	38.4%	24.0%
	90-110	49.0%	40.0%
	110-130	9.6%	24.0%
	130-150	1.0%	6.0%
Motor Coordination (K)	50-70	10.6%	45.0%
	70-90	45.0%	24.0%
	90-110	23.2%	40.0%
	110-130	13.0%	24.0%
	130-150	0.0%	6.0%
Finger Dexterity (F)	50-70	20.5%	6.0%
	70-90	29.1%	24.0%
	90-110	36.2%	40.0%
	110-130	14.5%	24.0%
	130-150	2.4%	6.0%
Manual Dexterity (M)	50-70	11.3%	6.0%
	70-90	25.0%	24.0%
	90-110	46.6%	40.0%
	110-130	17.1%	24.0%
	130-150	0.0%	6.0%

Only in categories F, Q, P and S did the Valley High students score between 130-150. Scores at the 110-130 level were approximately equal to that of the normal population in Spatial, and above the normal population in Clerical Perception. Scoring in Form Perception was also slightly above the normal in the 90-110 range. (See Figures 105 - 113.)

4. Distribution of GATB Mean Standard Scores by Sex, Attendance, and Ethnic Groupings

The following charts report GATB data for the Valley High School test population in terms of the comparative subgroupings:

Distribution of Scores: Sex
(See Figure 114)

Aptitude	Mean Score Males	Mean Score Females
Intelligence	85.5	82.4
Verbal	85.7	82.3
Numerical	79.0	81.8
Spatial	99.6	95.3
Form Perception	94.2	107.0*
Clerical Perception	93.5	96.6
Motor Coordination	87.6	93.8
Finger Dexterity	89.6	96.8
Manual Dexterity	93.4	95.3

*$x^2 = 11.68$; df = 4; significance at the .05 level.

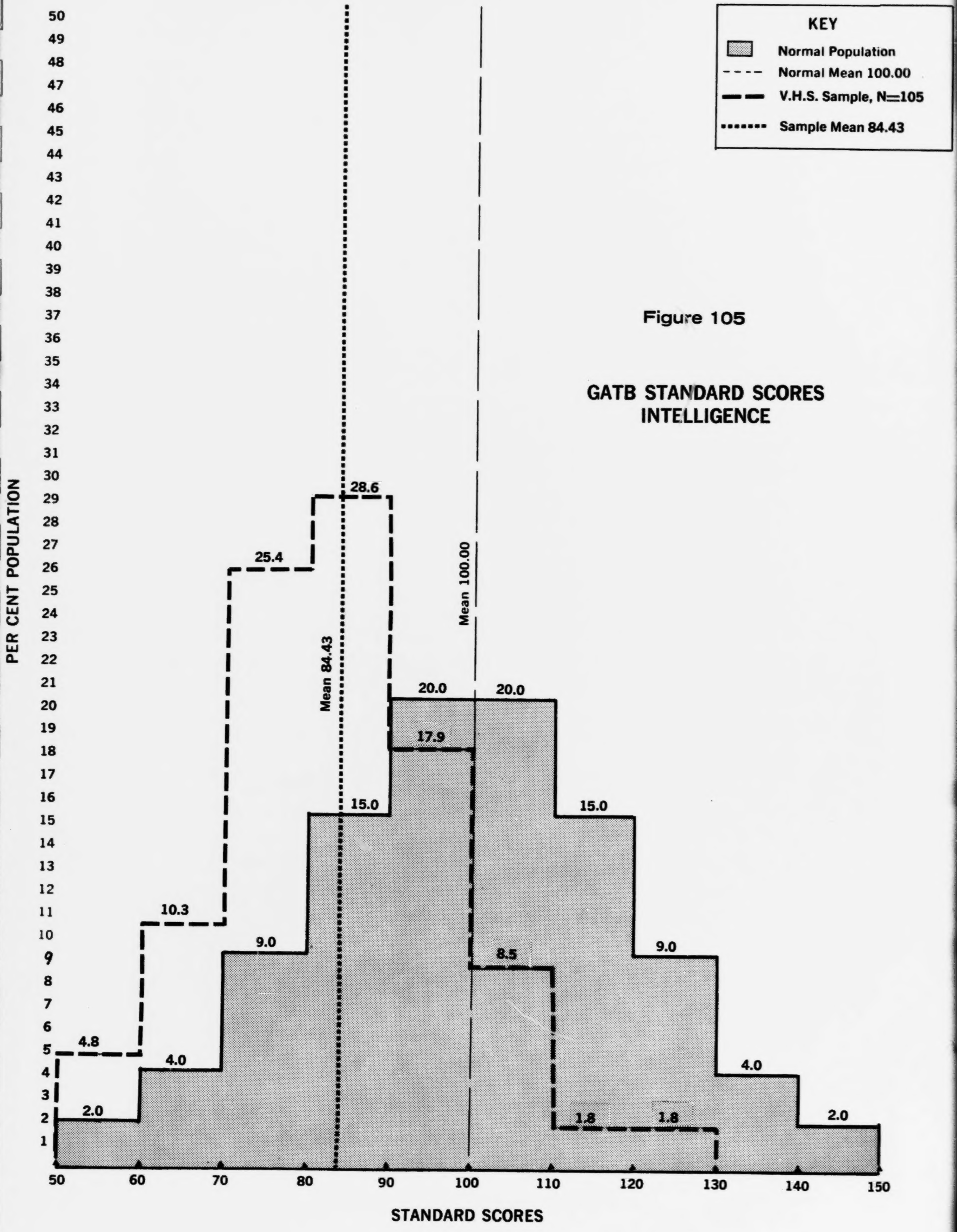


Figure 105

GATB STANDARD SCORES
INTELLIGENCE

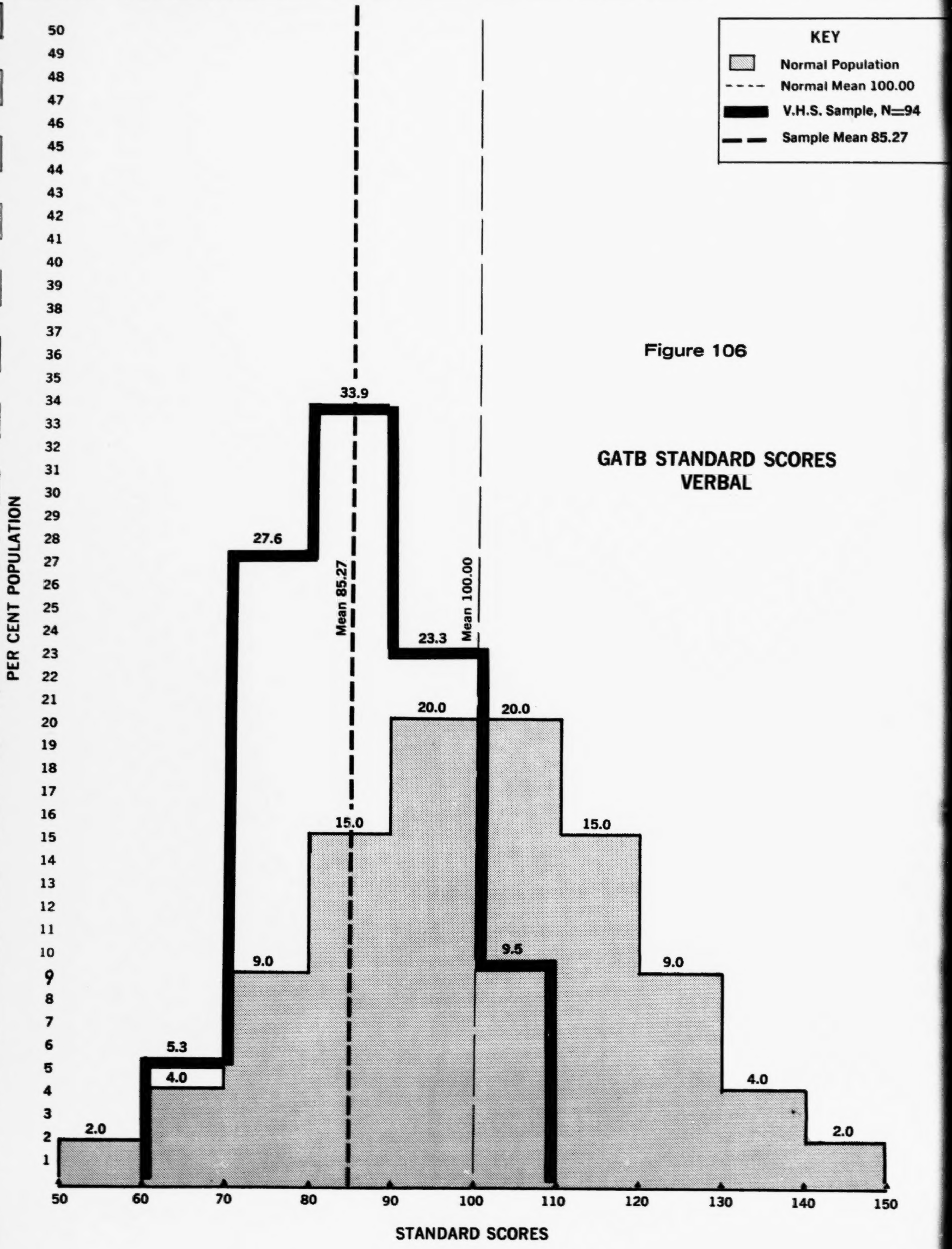


Figure 106

GATB STANDARD SCORES VERBAL

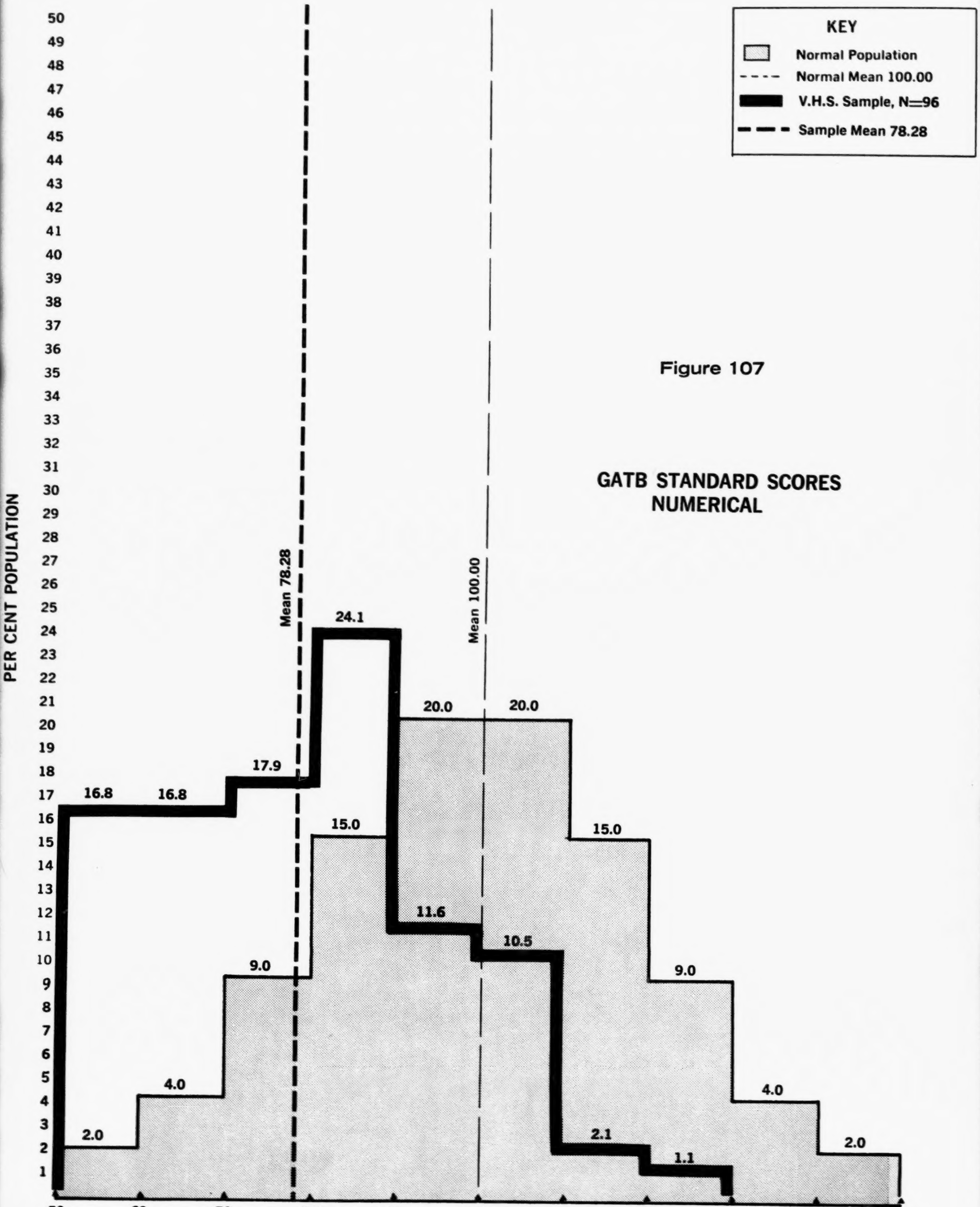


Figure 107

GATB STANDARD SCORES
NUMERICAL

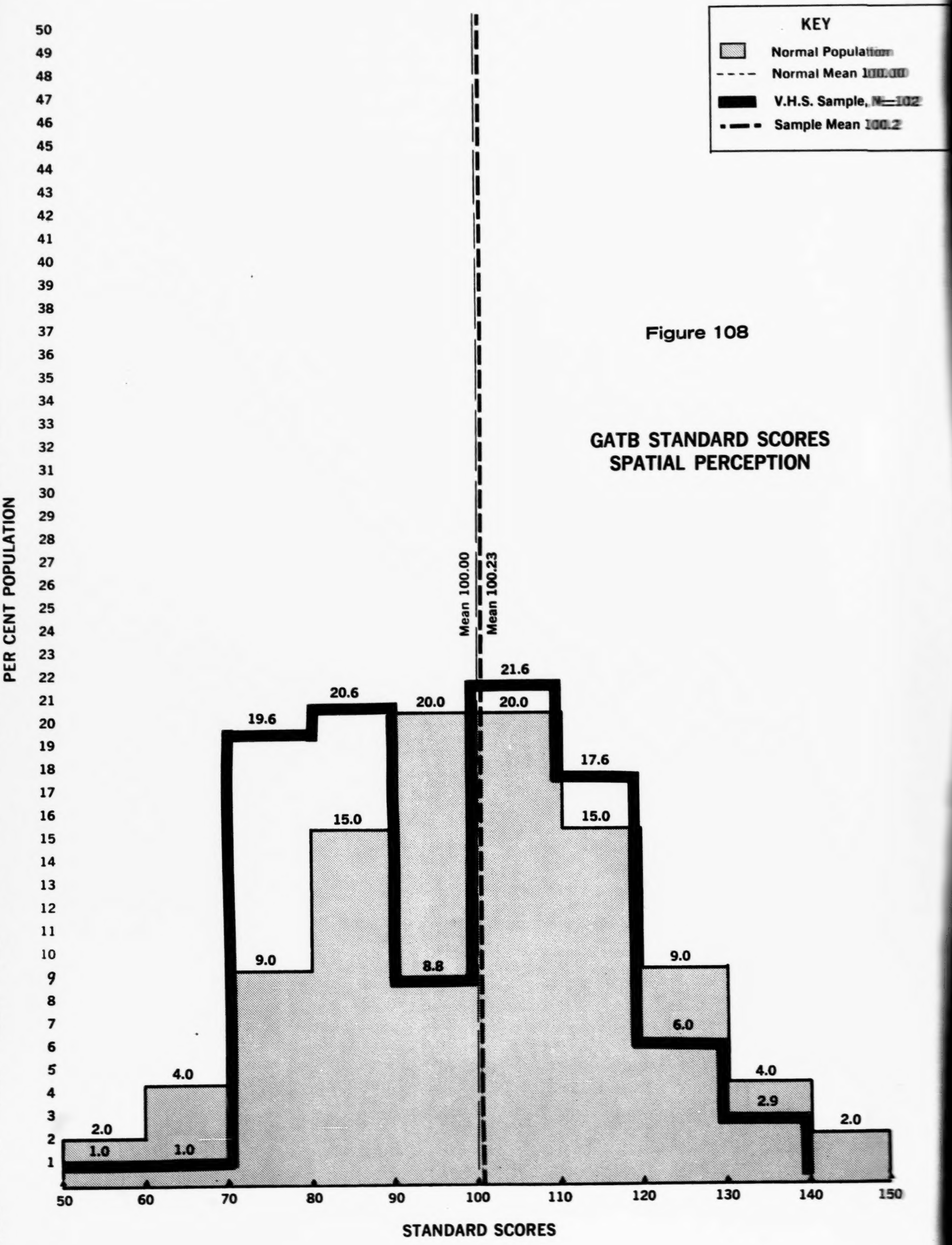


Figure 108

GATB STANDARD SCORES
SPATIAL PERCEPTION

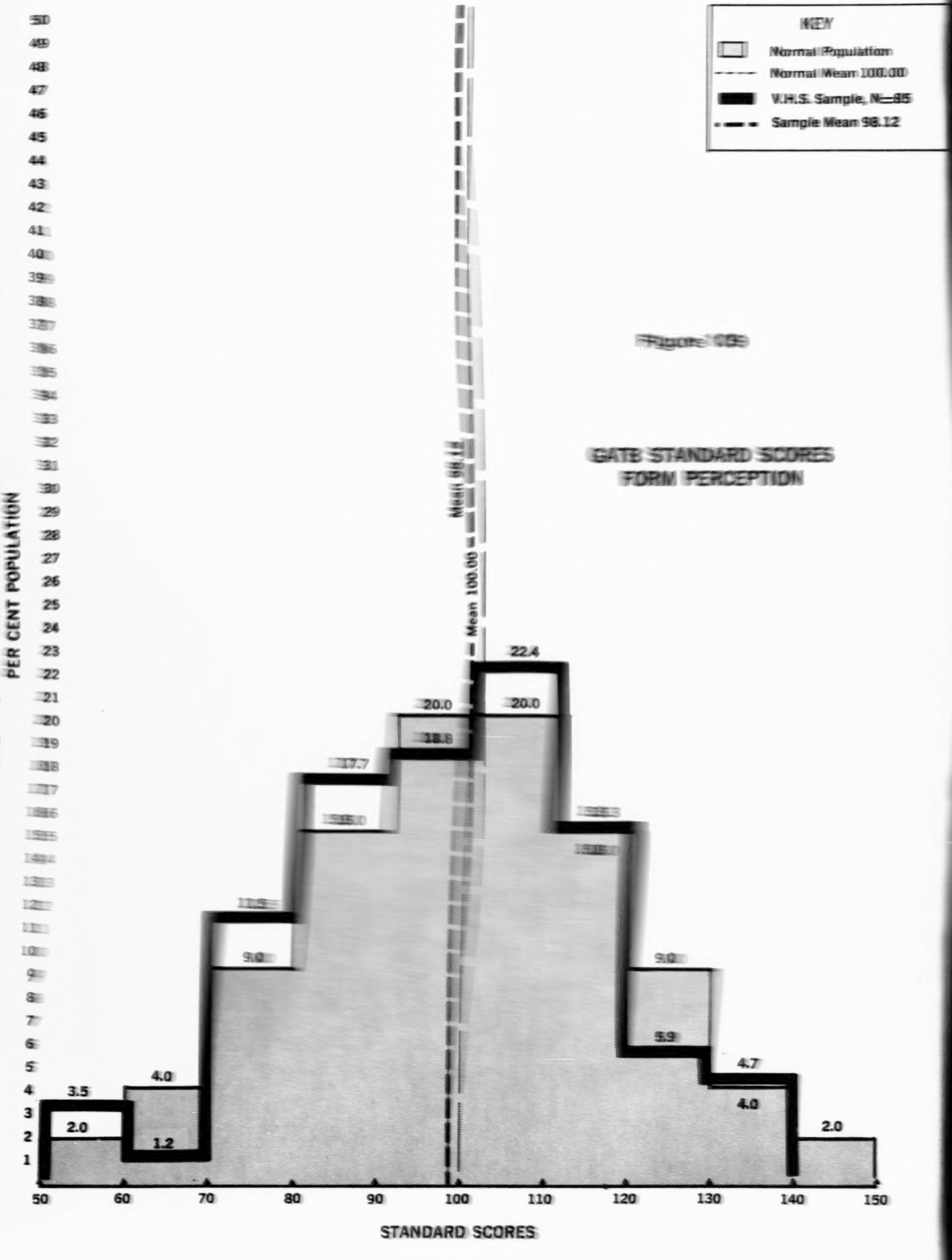


Figure 19

GATB STANDARD SCORES
FORM PERCEPTION

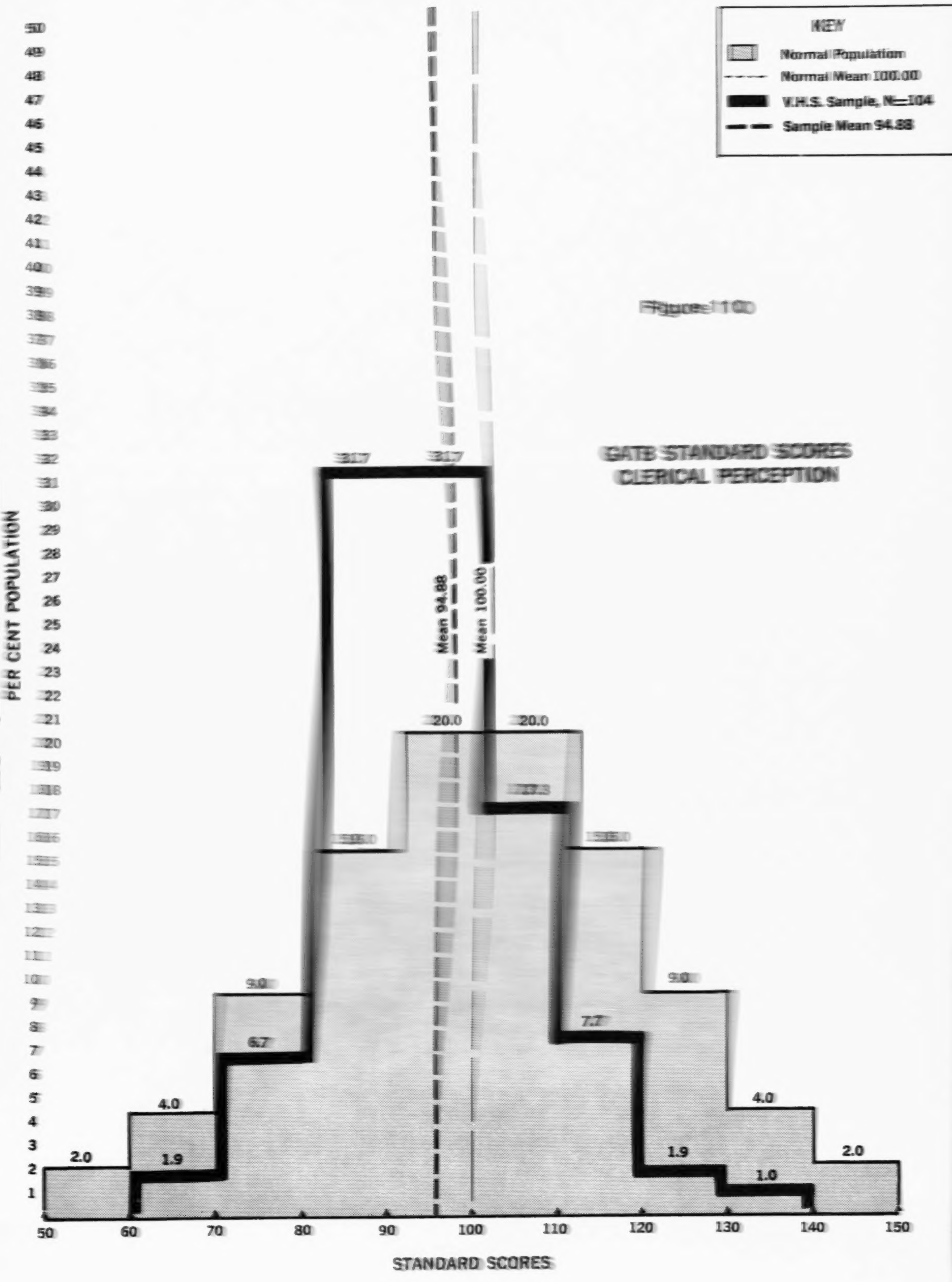


Figure 10

GATB STANDARD SCORES
CLERICAL PERCEPTION

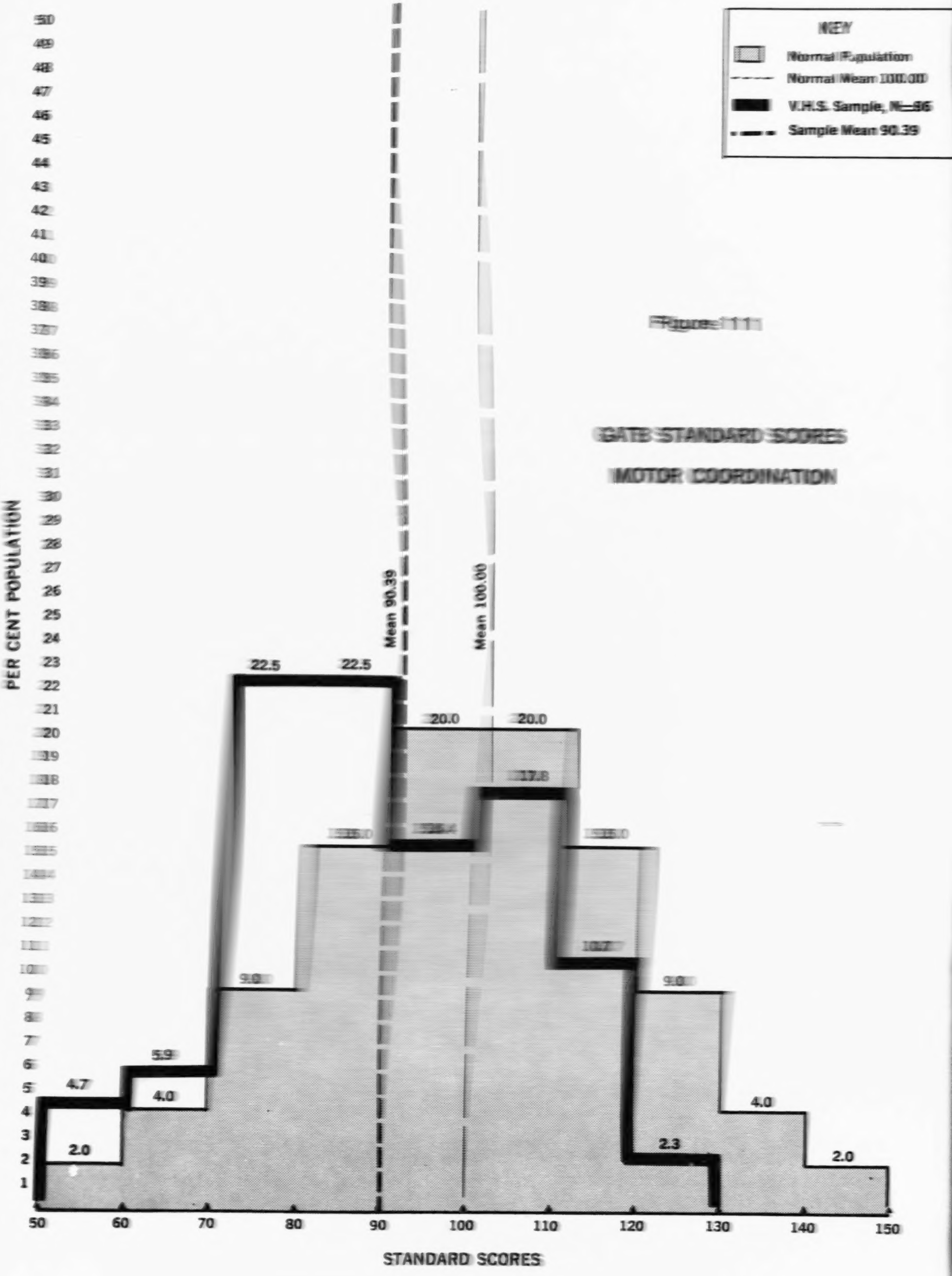


Figure 11

GATB STANDARD SCORES

MOTOR COORDINATION

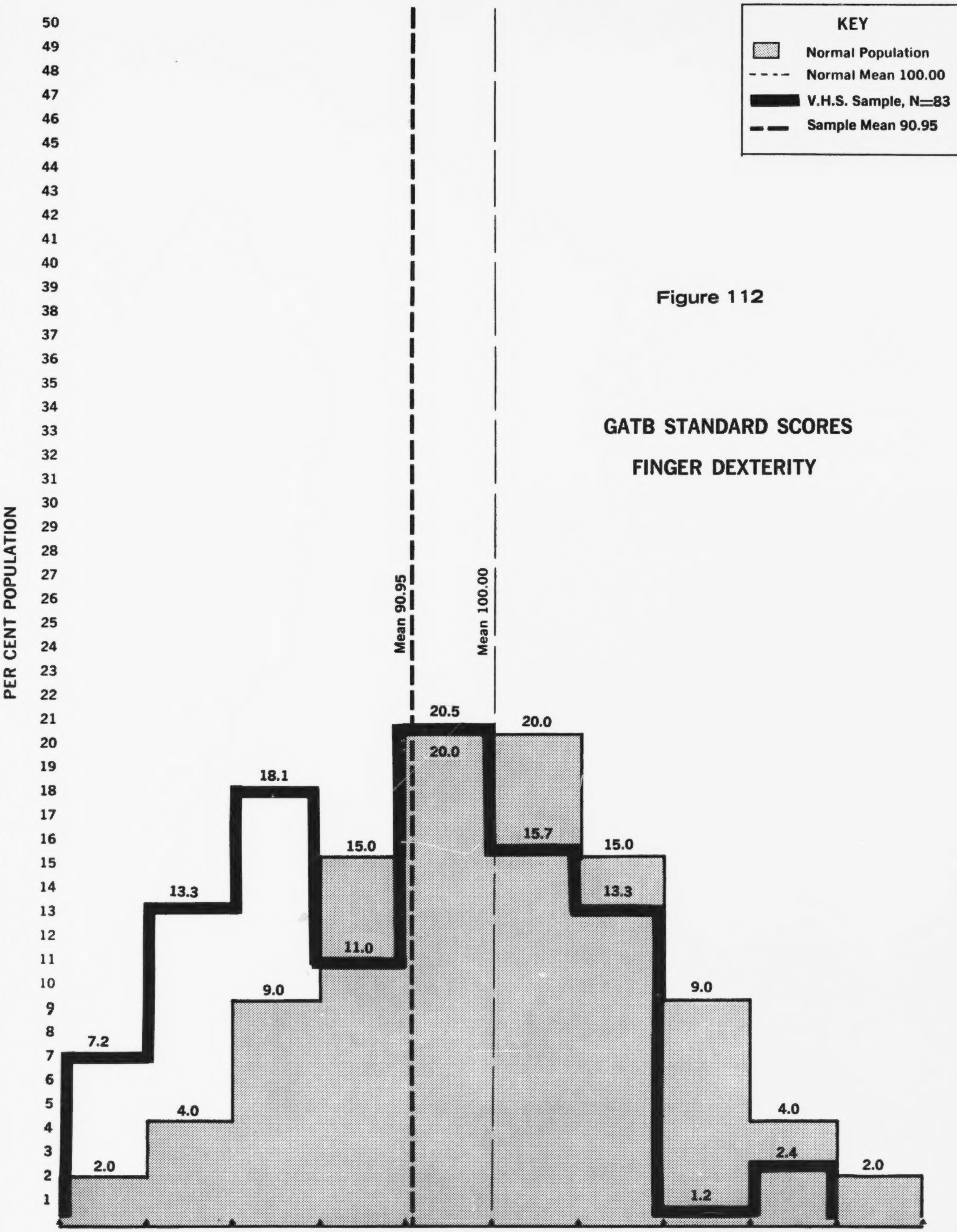


Figure 112

GATB STANDARD SCORES

FINGER DEXTERITY

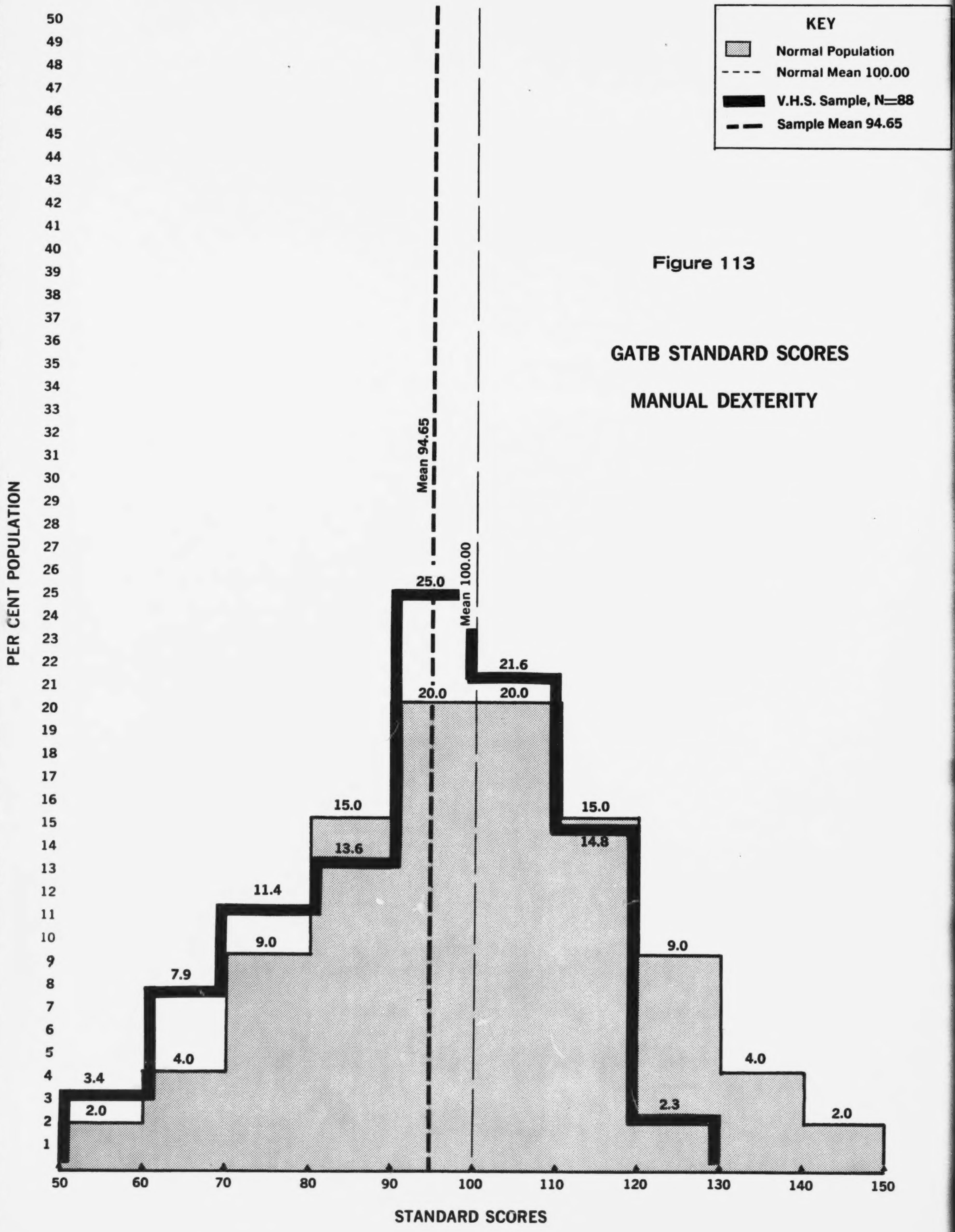


Figure 113

GATB STANDARD SCORES

MANUAL DEXTERITY

Figure 114

GATB - DISTRIBUTION OF STANDARD SCORES BY SEX

Score	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-140	141-150
Intelligence (G)										
Male- N=64 Mean=85.5	34.7	12.5	25.0	23.4	18.8	10.9	1.6	3.1	0.0	0.0
Female- N=31 Mean=82.4	6.5	9.7	35.5	16.1	22.6	6.5	3.2	0.0	0.0	0.0
Verbal (V)										
Male- N=66 Mean=85.7	0.0	4.5	34.8	28.8	22.7	9.1	0.0	0.0	0.0	0.0
Female- N=32 Mean=87.3	0.0	6.3	15.6	46.9	21.9	9.4	0.0	0.0	0.0	0.0
Numerical (N)										
Male- N=65 Mean=79.0	20.0	16.9	20.0	16.9	10.8	12.3	1.5	1.5	0.0	0.0
Female- N=31 Mean=81.8	9.7	16.1	12.9	38.7	12.9	6.5	3.2	0.0	0.0	0.0
Spatial (S)										
Male- N=67 Mean=99.6	1.5	1.5	14.9	17.9	10.4	23.9	17.9	10.4	1.5	0.0
Female- N=32 Mean=95.3	0.0	0.0	25.0	28.1	6.3	15.6	18.8	0.0	6.3	0.0
Form Perception (P)										
Male- N=59 Mean=94.2	6.8	1.7	13.6	22.0	15.3	22.0	11.9	5.1	1.7	0.0
Female- N=28 Mean=107.0	0.0	0.0	7.1	3.6	25.0	21.4	25.0	7.1	10.7	0.0
Clerical Perception (Q)										
Male- N=68 Mean=93.5	0.0	3.0	8.8	38.2	23.5	14.7	10.3	0.0	1.5	0.0
Female- N=36 Mean=96.6	0.0	0.0	2.8	22.2	44.4	22.2	2.8	5.6	0.0	0.0
Motor Coordination (K)										
Male- N=57 Mean=87.6	5.3	8.8	24.6	21.1	15.8	14.0	8.8	1.8	0.0	0.0
Female- N=29 Mean=93.8	3.4	0.0	17.2	24.1	13.8	24.1	13.8	3.4	0.0	0.0
Finger Dexterity (F)										
Male- N=54 Mean=89.6	7.4	16.7	18.5	13.0	20.4	11.1	13.0	0.0	0.0	0.0
Female- N=29 Mean=96.8	6.9	6.9	13.8	3.4	20.7	24.1	13.8	3.4	6.9	0.0
Manual Dexterity (M)										
Male- N=58 Mean=93.4	1.7	8.6	12.1	17.2	22.4	24.1	12.1	1.7	0.0	0.0
Female- N=30 Mean=95.3	6.7	6.7	10.0	3.3	23.3	23.3	20.0	3.3	0.0	0.0

Distribution of Scores: Attendance
(See Figure 115)

Aptitude	Group A	Group B
Intelligence	84.6	84.4
Verbal	86.7	85.3
Numerical	79.8	80.1
Spatial	97.6	99.3
Form Perception	99.4	96.4
Clerical Perception	94.6	94.4
Motor Coordination	91.3	86.8
Finger Dexterity	95.2	86.3
Manual Dexterity	93.5	95.1

No significant differences were found between Group A and Group B. Group A, however, tended to score slightly higher in Form Perception, Motor Coordination and Finger Dexterity than Group B.

Distribution of Scores: Ethnic (Compared with the Normal Population)
(See Figures 116 - 124)

Aptitude	Normal Mean	Anglo Mean	Mexican-American Mean
Intelligence	100.0	88.0*	79.6*
Verbal	100.0	87.6	84.4
Numerical	100.0	84.1**	73.7**
Spatial	100.0	100.4	94.6
Form Perception	100.0	100.4	94.7

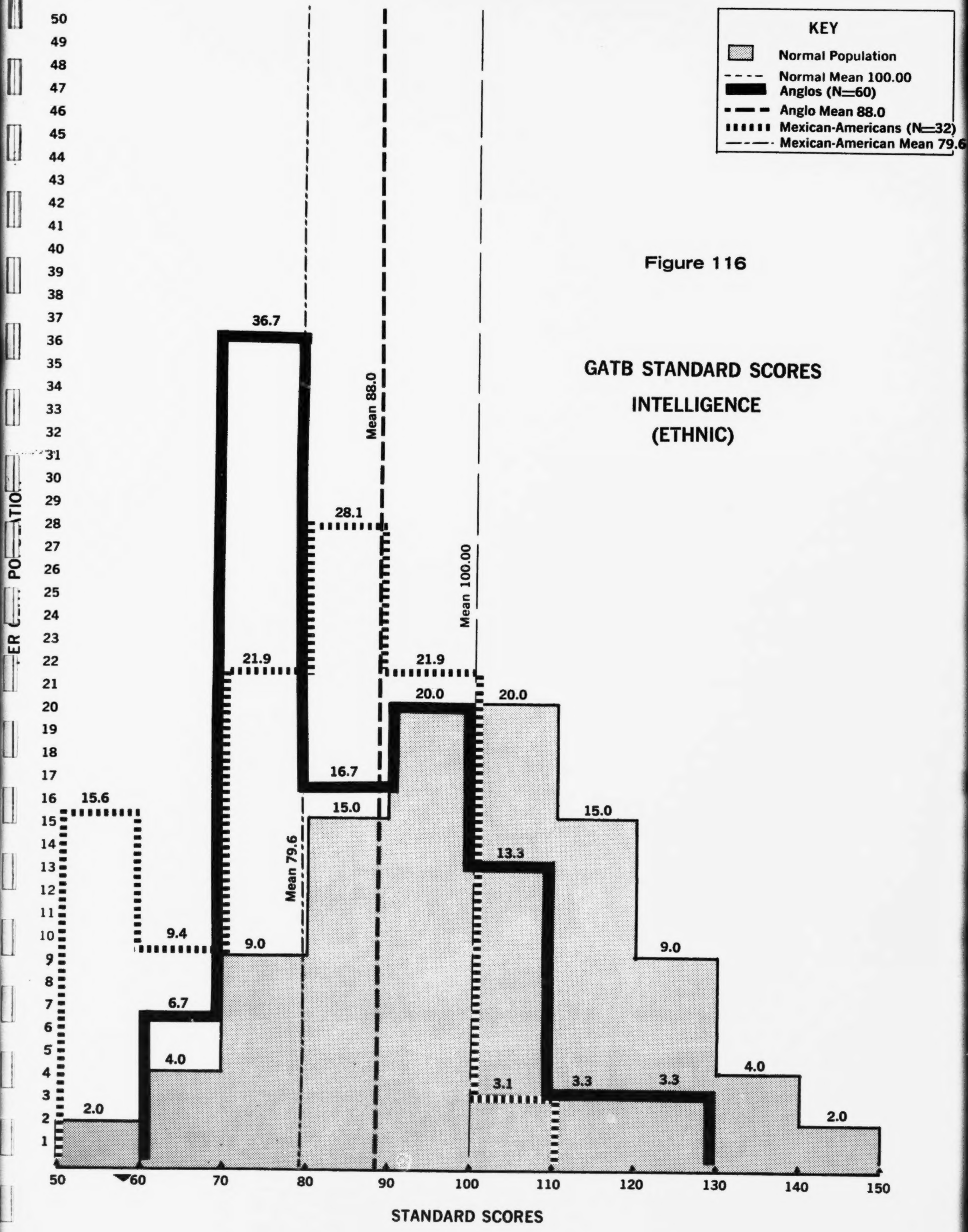


Figure 116

GATB STANDARD SCORES
INTELLIGENCE
(ETHNIC)

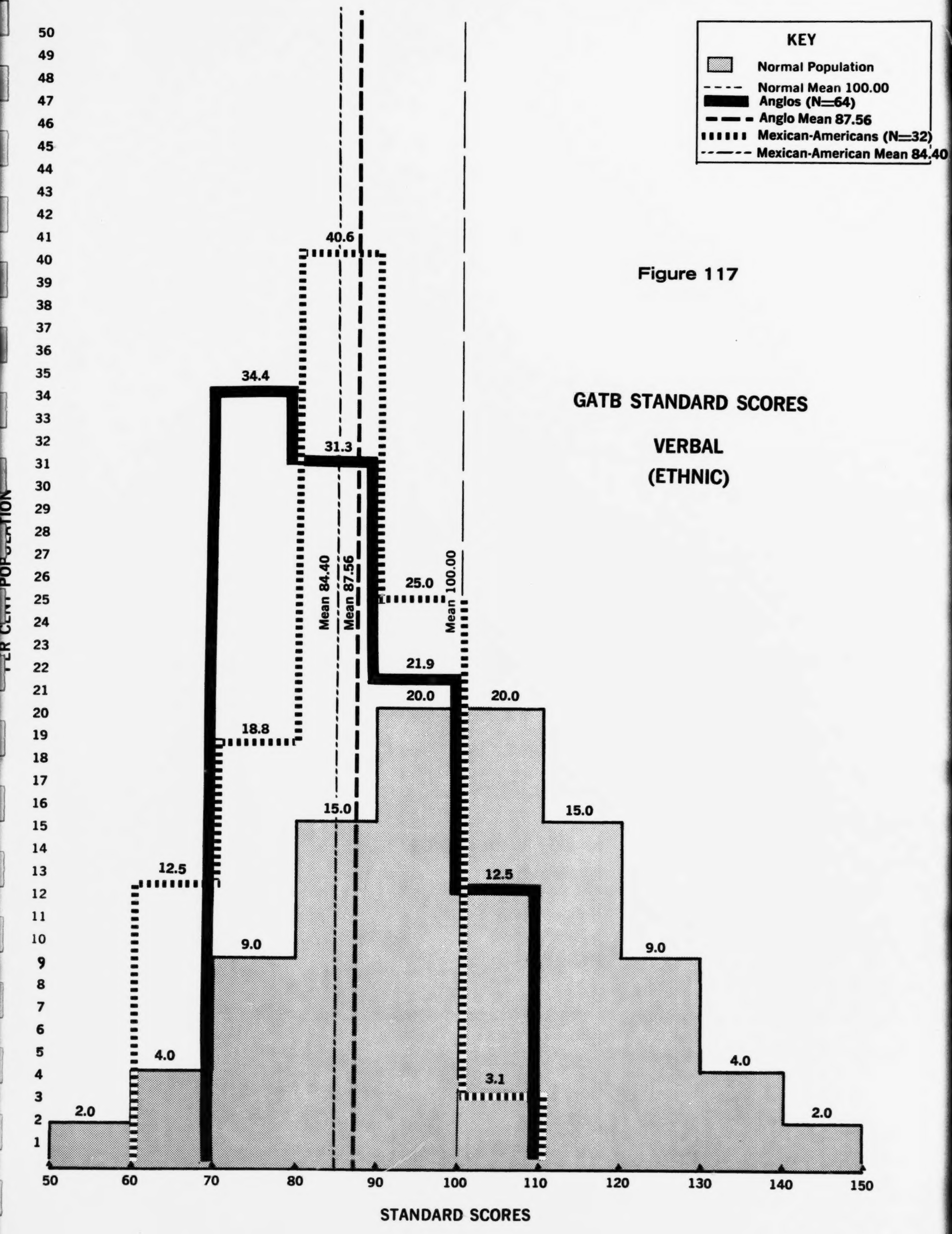


Figure 117

GATB STANDARD SCORES

VERBAL

(ETHNIC)

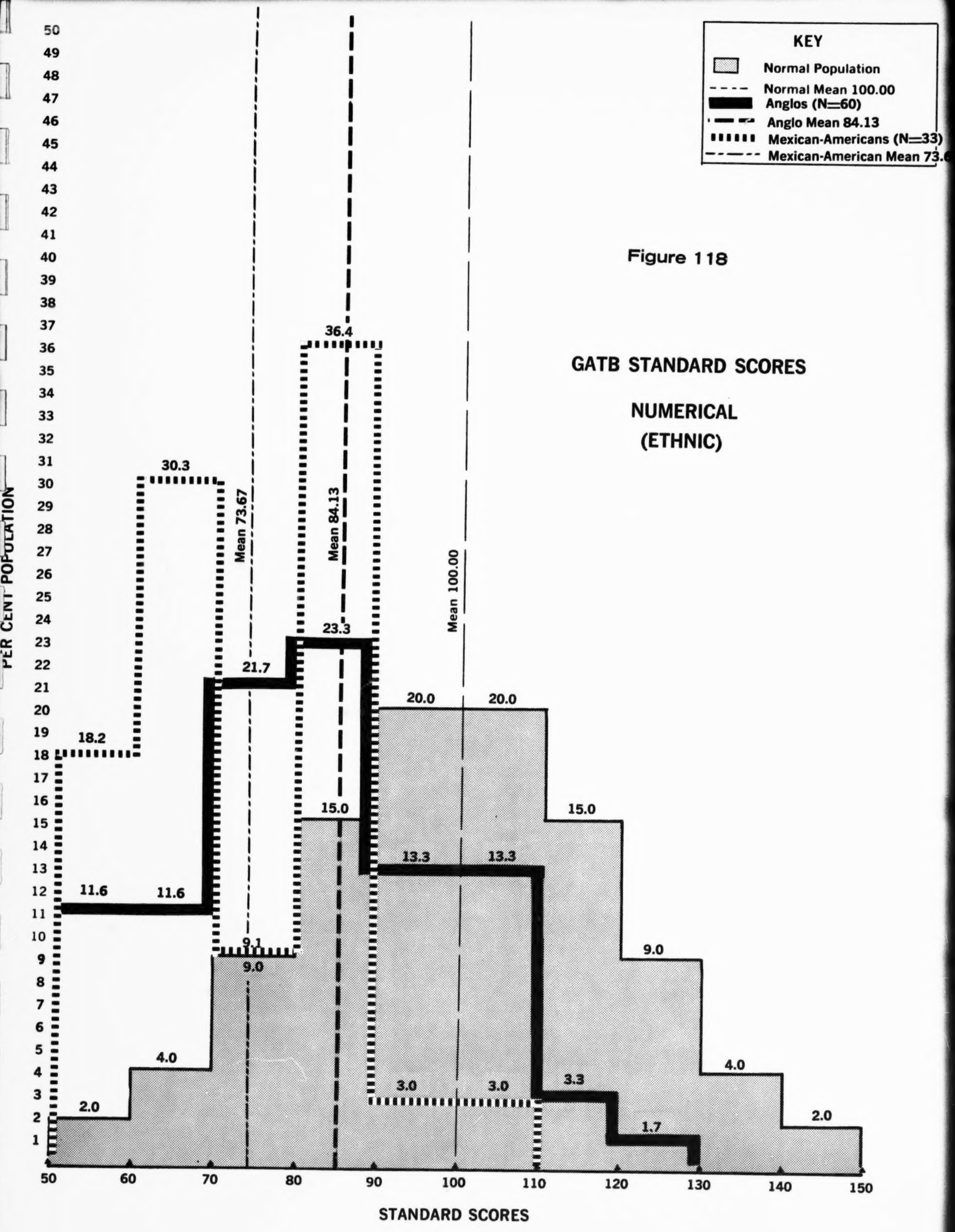


Figure 118

GATB STANDARD SCORES

NUMERICAL
(ETHNIC)

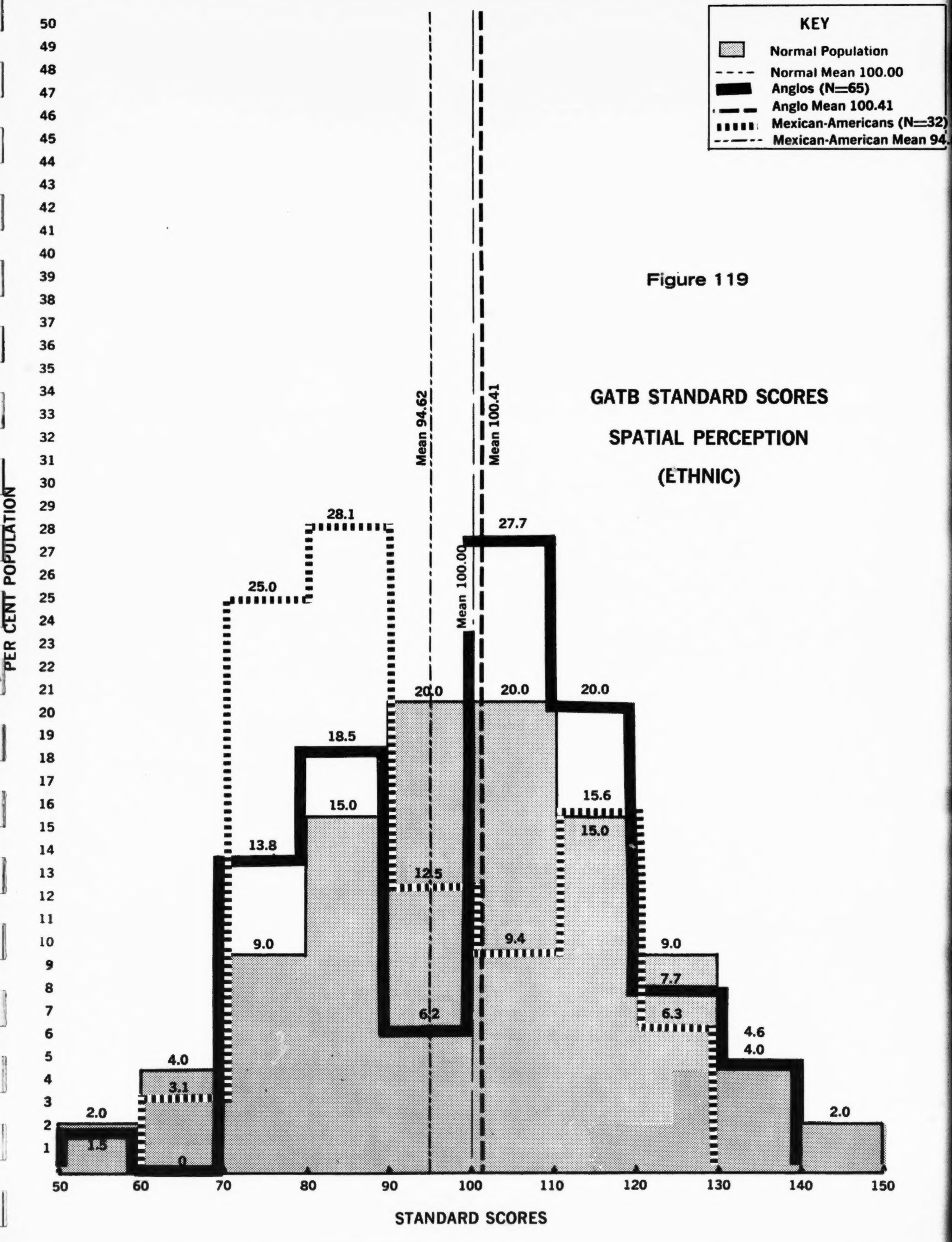


Figure 119

GATB STANDARD SCORES
SPATIAL PERCEPTION
(ETHNIC)

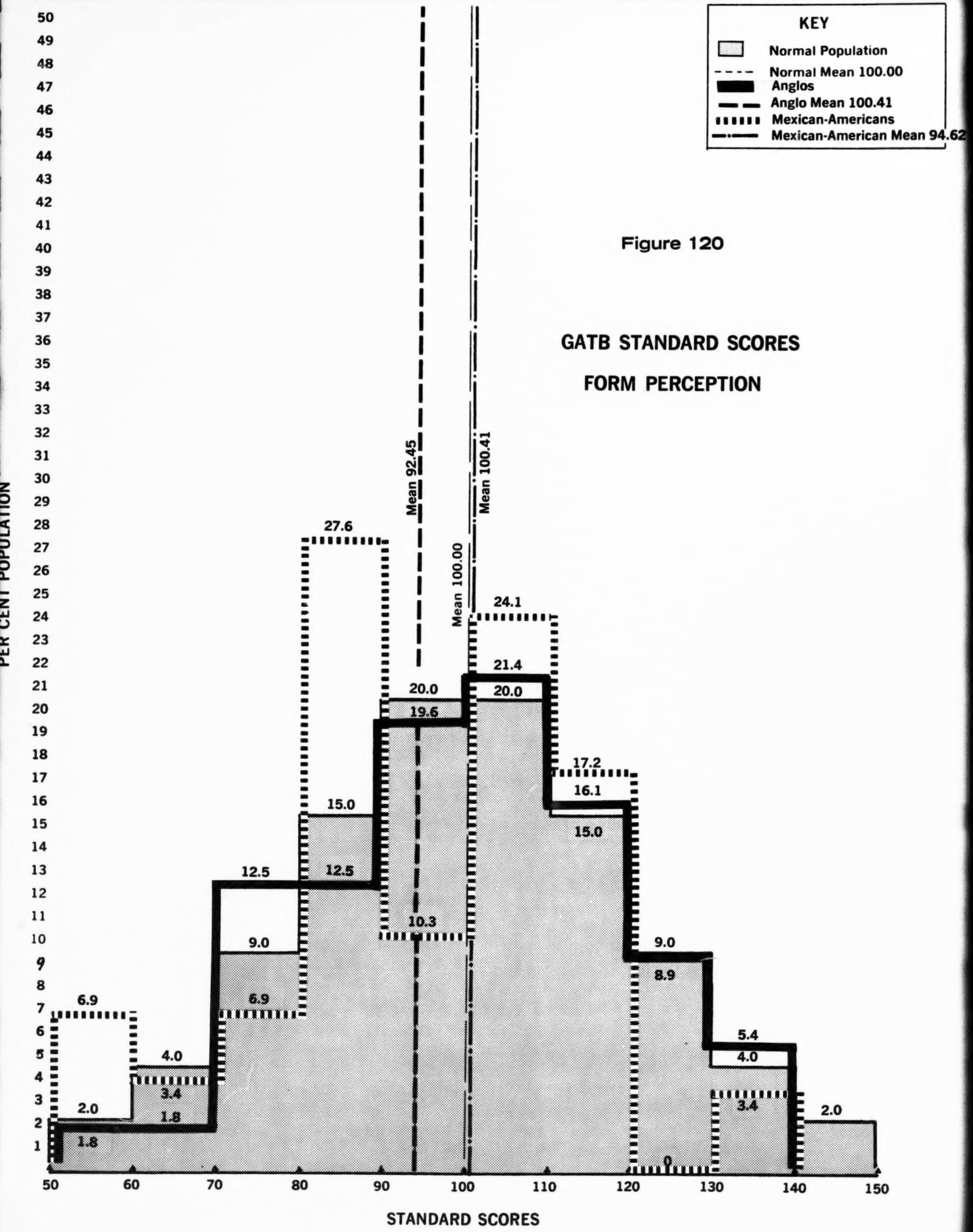


Figure 120

GATB STANDARD SCORES

FORM PERCEPTION

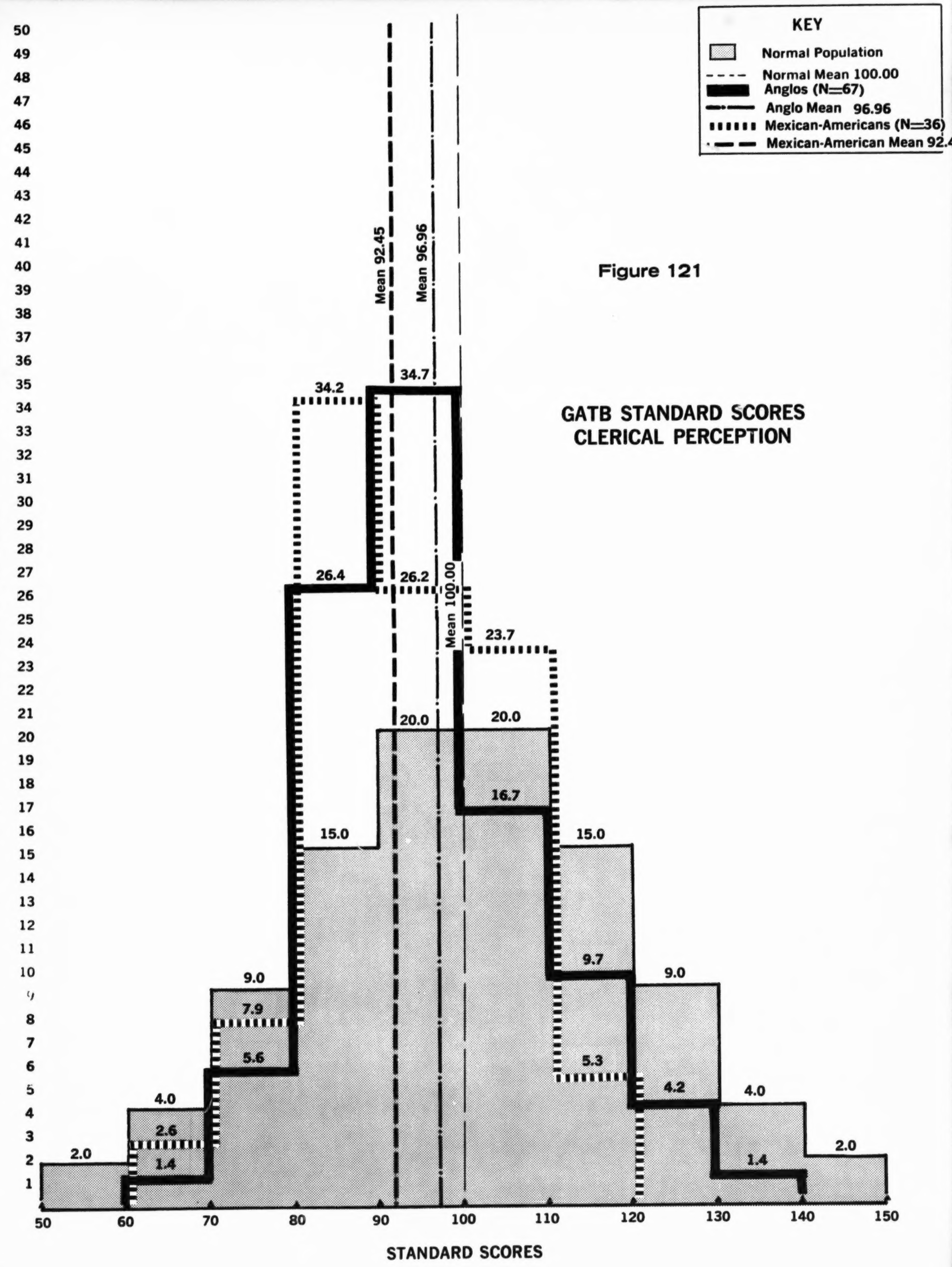


Figure 121

GATB STANDARD SCORES
CLERICAL PERCEPTION

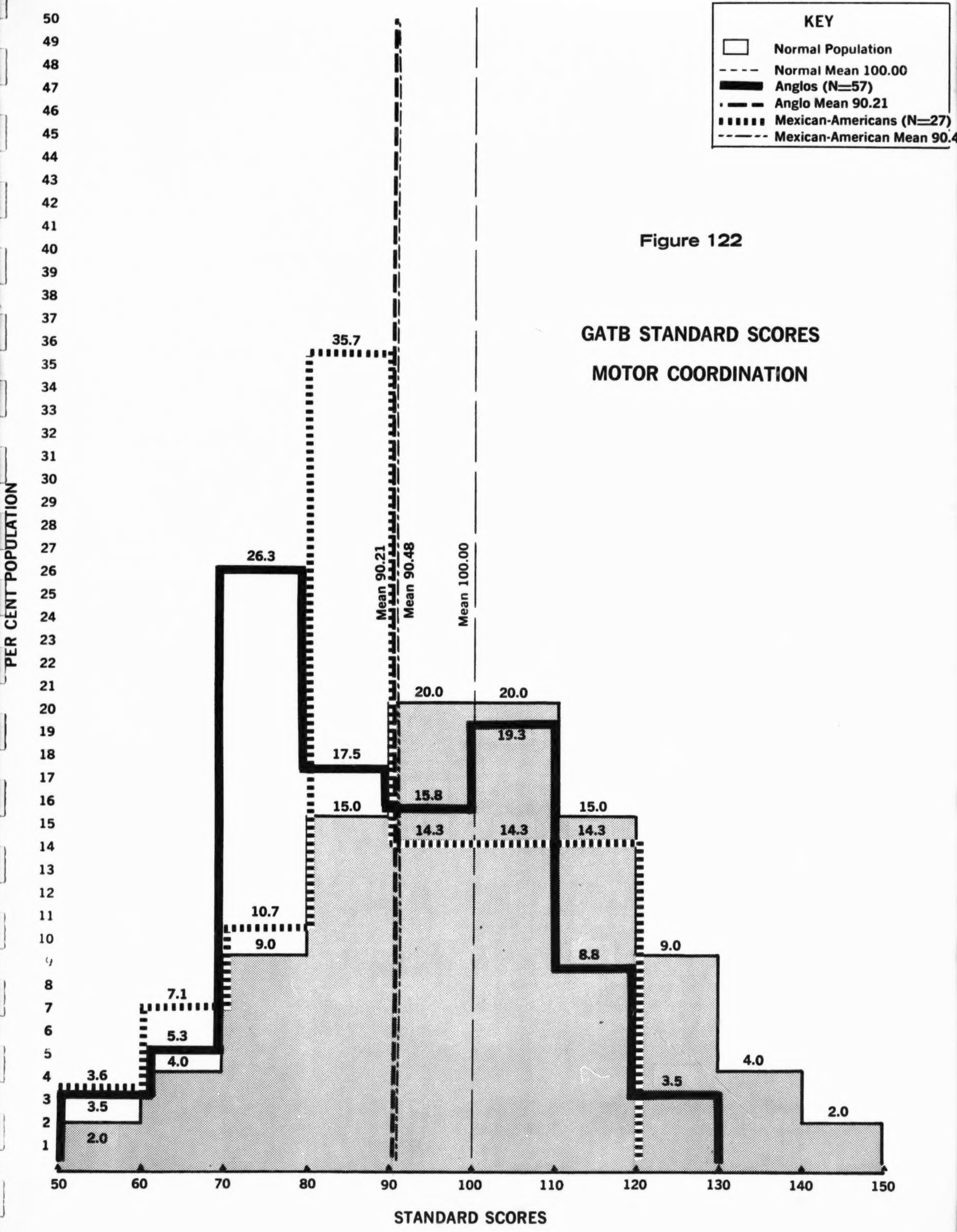


Figure 122

GATB STANDARD SCORES

MOTOR COORDINATION

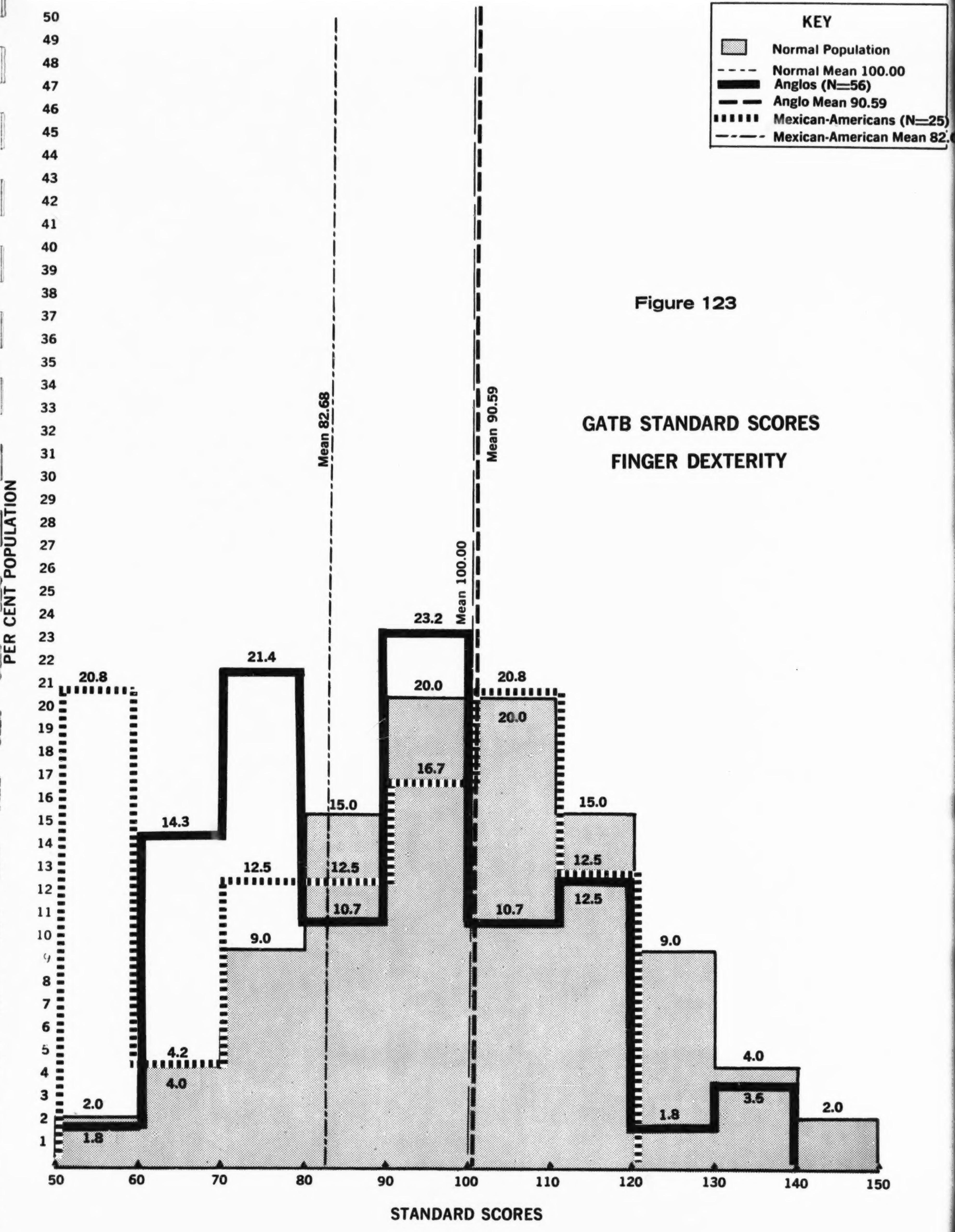


Figure 123

GATB STANDARD SCORES
FINGER DEXTERITY

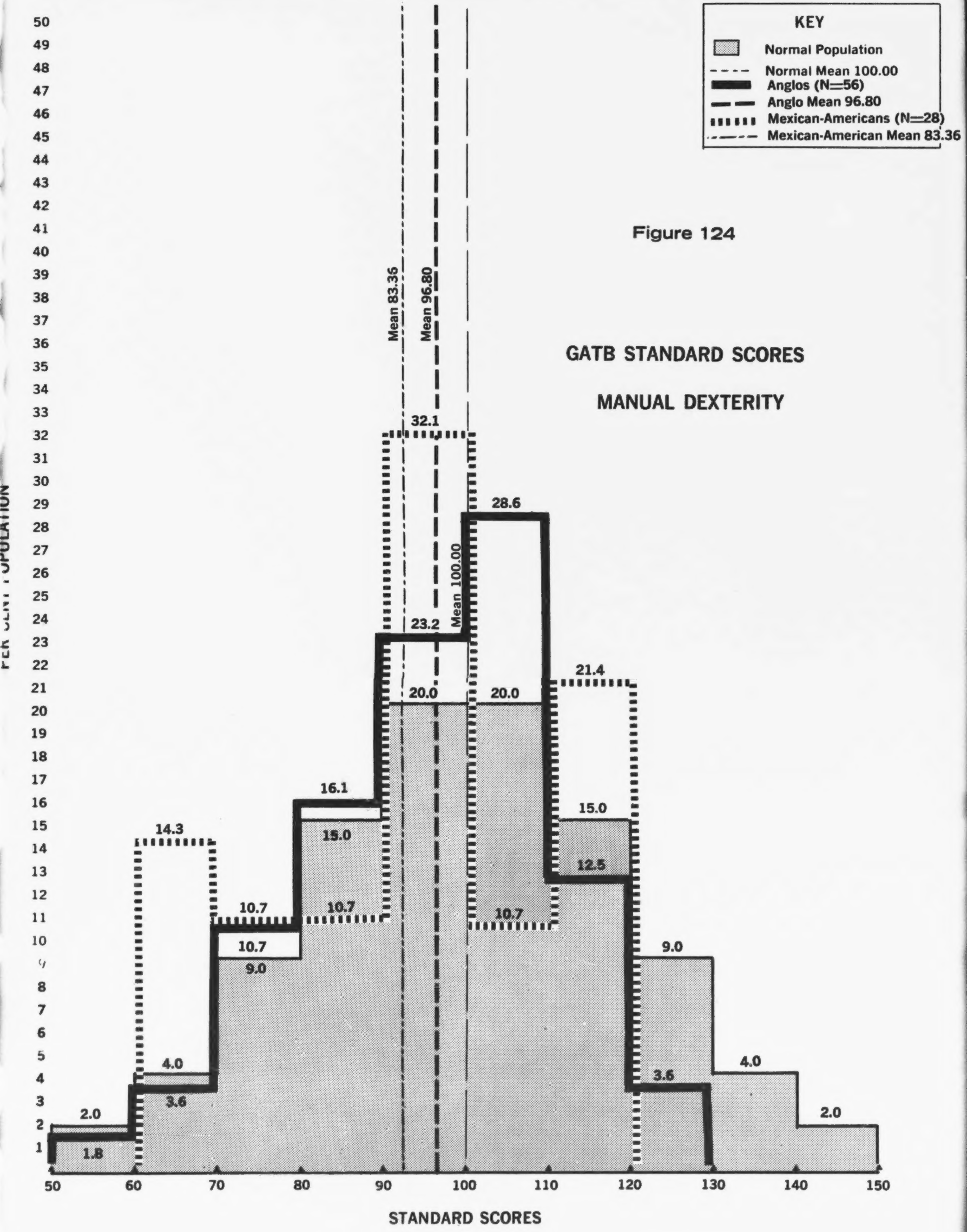


Figure 124

GATB STANDARD SCORES

MANUAL DEXTERITY

Distribution of Scores: Ethnic (cont.)

Aptitude	Normal Mean	Anglo Mean	Mexican-American Mean
Clerical Perception	100.0	97.0	92.5
Motor Coordination	100.0	90.2	90.4
Finger Dexterity	100.0	90.6	82.7
Manual Dexterity	100.0	96.8	93.3

* $X^2 = 10.13$; df = 4. Difference between Anglo and Mexican-American Means significant at the .05 level.

** $X^2 = 14.24$; df = 5. Difference between Anglo and Mexican-American Means significant at the .05 level.

With the exception of the category of Motor Coordination, all Anglo mean scores were above those obtained by the Mexican-American. The Anglo mean for Spatial, Form Perception and Clerical Perception were at, or only slightly below, the normal mean.

5. GATB Correlations (See Figure 125)

Findings indicate a positive correlation at the .05 level between sex grouping and the following aptitudes: Form Perception, Motor Coordination, Clerical Perception and Finger Dexterity. Previous analyses indicated that females at Valley High perform better in the areas of Form Perception, Clerical Perception and Finger Dexterity, while the males perform better in the area of Motor Coordination.

FIGURE 125

GATB CORRELATIONS (N = 77)

		1	2	3	4 G	5 V	6 N	7 S	8 P	9 Q	10 K	11 F	12 M
Sex Grouping	1												
Attendance Grouping	2	-.127											
Ethnic Grouping	3	-.031	-.133										
G	4	-.114	.049	-.368^{+}									
V	5	.003	.039	-.304^{+}	.761^{+}								
N	6	.048	-.011	-.397^{+}	.843^{+}	.669^{+}							
S	7	-.171	.107	-.209	.693^{+}	.359^{+}	.411^{+}						
P	8	.229*	-.019	-.191	.327^{+}	.309^{+}	.397^{+}	.248*					
Q	9	.137	.004	-.270^{+}	.562^{+}	.549^{+}	.631^{+}	.326^{+}	.563^{+}				
K	10	.275*	-.131	-.216^{+}	.158	.328^{+}	.284*	-.014	.244*	.346^{+}			
F	11	.258*	-.186	-.091	-.0002	.008	.035	.076	.171	.040	.226*		
M	12	.105	.054	-.247^{+}	.353^{+}	.372^{+}	.351^{+}	.178	.279*	.386^{+}	.524^{+}	.364^{+}	

df = 75.

* .05 level of significance, $r \geq .224$

+ .01 level of significance, $r \geq .292$

A negative correlation, significant at the .01 level, exists between the ethnic variable and the following aptitudes: Intelligence, Verbal, Numerical, Clerical Perception and Manual Dexterity. This indicates, as have previous findings, that the Mexican-American students perform less well in these areas than do the Anglo student. No significant correlation was found between attendance groupings and any of the measured aptitudes.

6. GATB Measures as Predictors of College Success

Aptitude G (Intelligence) has been found to correlate significantly with criteria of academic success in a variety of academic fields. Because of the variety of college training available, colleges were divided into three broad groupings:

(1) Junior college - those colleges where a certificate or degree is granted after two years of study.

(2) Four-year college - those colleges offering courses which usually lead to a bachelor's degree after four years of study.

(3) Professional college - those colleges offering highly specialized professional courses such as medicine, dentistry or engineering.

With these distinctions in mind, it is possible to establish an appropriate cutoff score for the Aptitude G which can function as a predictor of college success in each of the three colleges mentioned. Critical scores for the three types of schooling are:

1. Junior College .... Critical G Score - 100
2. Four year College .... Critical G Score - 110
3. Professional College .... Critical G Score - 120

It is evident, of course, that a critical G score at or above the cutoff point does not insure college success.

Of the total Valley High School population, 8.5% scored at a level which would indicate potential junior college success; 1.8% scored at the four-year college critical level, and 1.8% at the professional college level. A comparison by sex grouping indicates that 10.9% of the males and 6.5% of the females scored at the level indicative of junior college success; 1.6% of the males and 3.2% of the females scored at the critical scores for four-year college success; and 3.1% males and 0.0% females scored at the professional college critical level.

A comparison of the Anglo and Mexican-American population in terms of possible college success reveals that 3.1% of the Mexican-Americans scored at the junior college level as compared with 13.3% of the Anglos. No Mexican-American scored at a level indicative of possible success in either four-year college or professional college. Of the Anglos, 3.3% scored at the four-year college level, and 3.3% scored at the professional college level.

7. The Occupational Aptitude Patterns

In order to establish Occupational Aptitude Patterns, occupations have been grouped into a relatively small number of categories for which aptitudinal requirements were very nearly the same. Aptitude norms were then established in terms of the three most significant aptitudes in each category. Patterns of aptitude scores accomplished on the GATB can give some indication not only of the relationship between individual occupations and test scores, but also of the relationship between occupation groupings and their appropriate scores.

According to the GATB Manual, there are thirty-six Occupational Aptitude Patterns (OAP).* The following chart presents the Occupational Aptitude Patterns, 1 - 36, as well as the number of Valley High males, group A and B; and the number of Valley High females, group A and B, who qualify in each of the patterns. The next chart compares the number of Anglo and Mexican-American students who qualify in the occupational patterns.**

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* For a complete breakdown of all occupations within each pattern, the reader may refer to the GATB Manual, Section III, which presents a more comprehensive picture of the cutting scores for the various aptitudes, as well as the complete aptitude patterns.

**According to the GATB Manual, Section III, even if the results show that a student does not fit into any of the OAP's, one cannot assume that the student's pattern of abilities is unsuitable for any kind of work.

Occupational Aptitude Patterns:
Number of Students Qualifying
By Sex and Attendance Grouping A and B

	Males		Females		
	Group A	Group B	Group A	Group B	Totals
1-Engineers, Surgeon, Systems Analyst, Programmers	1	0	0	0	1
2-Accountant, Pharmacist	1	1	0	0	2
3-Social Work, Teacher, Employment Service	1	1	1	0	3
4-Librarian, City Circulation	1	1	1	0	3
5-Dental Hygienist, Photographer	2	1	2	0	5
6-File Clerk, Psychiatric Technician	1	1	2	0	4
7-Bookkeeper I, Theatre Manager	2	3	2	0	7
8-Lab Tester I, Chemist Assistant	3	2	2	0	7
9-Sales, general, Grocery Checker	5	5	3	1	14
10-Cook, Press Man, selected	5	7	3	1	16
11-Auto Mechanic, Meat Cutter	7	5	3	1	16
12-Proofreader I, Mgr. Retail Food	5	4	3	0	12
13-Clerk, Camp Counselor	6	4	3	0	13
14-Waitress, Bricklayer	4	5	3	1	13
15-Clothes Designer, Structural Steel	8	6	5	1	20

	Males		Females		
	Group A	Group B	Group A	Group B	Totals
16-Assembler, selected, Sheet Metal	9	6	6	1	22
17-Coil Assembler, Air-Conditioner Installer	15	10	9	1	35
18-Fork Lift Truck Operator	8	7	6	1	22
19-Tractor-Trailer Truck Driver	14	9	9	3	35
20-Aircraft Electrician and Mechanic	12	10	9	2	33
21-Central Office Operator Cosmetologist	13	7	10	2	32
22-Aircraft Assembly, Mechanic, selected	13	10	11	2	36
23-Comptometer, Calculating Machine Operator	4	2	2	0	8
24-Radio Repairman, Electrician	5	3	7	2	17
25-Carpenter, Painter, Machinist I	10	7	8	2	27
26-Machine Operators, selected	9	7	11	2	29
27-Watchmaker, Welder, Arc & Combination	11	6	11	2	30
28-Dental Lab Technician, Die Cutter	22	15	13	5	55
29-General Laborer, Solderer Production Line	11	7	11	4	33
30-Rolling Mills, Foundry Jobs	8	8	7	2	25
31-Drill punch, Inspector, Forms	16	10	11	6	43

	Males		Females		
	Group A	Group B	Group A	Group B	Totals
32-Fruit Sorter, Sewing Machine	17	9	12	4	42
33-Bundler, Laundry, Napkin Packager	9	6	9	4	28
34-Assembler, selected	9	4	9	2	24
35-Cannery Worker, Candy Packer	10	4	12	3	29
36-Stenographer, Typist, Typesetter	1	0	2	0	3
ALL	1	0	0	0	1
NONE	6	2	1	0	9

Of the total population, only one person would qualify for all jobs listed in defined OAP.

Occupational Aptitude Patterns:
Number of Students Qualifying
by Ethnic Grouping

Number OAP	Anglo Totals	Mexican-American Totals
1-Engineers, Surgeon, Systems Analyst, Programmers	1	0
2-Accountant, Pharmacist	2	0
3-Social Work, Teacher, Employment Service	3	0
4-Librarian, City Circulation	3	0
5-Dental Hygienist, Photographer	5	0
6-File Clerk, Psychiatric Tech.	4	0

Number OAP	Anglo Totals	Mexican-American Totals
7-Bookkeeper I, Theatre Manager	5	1
8-Lab Tester I, Chemist Assist.	6	1
9-Sales, general, Grocery Checker	12	2
10-Cook, Press Man (selected)	13	3
11-Auto Mechanic, Meat Cutter	13	2
12-Proofreader I, Manager, Retail Food	10	3
13-Clerk, Camp Counselor	9	3
14-Waitress, Bricklayer	13	2
15-Clothes Designer, Structural Steel Designer	16	4
16-Assembler, (selected), Sheet Metal	17	5
17-Coil Assembler, Air-Conditioner Installer	29	9
18-Fork Lift Truck Operator	17	5
19-Tractor-Trailer Truck Driver	26	9
20-Aircraft Electrician and Mechanic	24	9
21-Central Office Operator, Cosmetology	23	8
22-Aircraft Assembly, Mechanic, (selected)	30	7
23-Comptometer, Calculating Machine Operator	7	1
24-Radio Repairman, Electrician	14	3
25-Carpenter, Painter, Machinist I	22	5
26-Machine Operators (selected)	9	6

Number OAP	Anglo Totals	Mexican-American Totals
27-Watchmaker, Welder (Arc & Comb.)	10	7
28-Dental Lab Technician, Die Cutter	14	12
29-General Laborer, Solderer (production line)	11	7
30-Rolling Mills, Foundry	7	6
31-Drill Punch, Forms Inspector	13	12
32-Fruit Sorter, Sewing Machine Operator	12	10
33-Bundler, Laundry, Napkin Packager	11	5
34-Assembler (selected)	8	7
35-Cannery Worker, Candy Packer	12	7
36-Stenographer, Typist, Typesetter	2	0
ALL	1	0
NONE	3	6

SUMMARY OF FINDINGS

SUMMARY OF FINDINGS

The task of identifying the characteristics of the student population which must be observed in the design of an instructional program was assigned in January. To accomplish this, the staff had to identify the most appropriate sources for these data, and select the best means for collecting and measuring them. In some cases, established techniques and standardized measurements were adapted to Project purposes. In other cases, the staff had to create its own instruments.

The research findings basically describe the unique and typical characteristics of the students at Valley High School. A major objective was to discover significant differences within the population which could affect the modes of stimulus that the instructional system can employ. For purposes of analysis, the data were researched and reported in three separate categories: Population Characteristics, Behavior Probability, and Present Academic Performance Capabilities.

I. POPULATION CHARACTERISTICS

A general description of the Valley High School student body is a prerequisite to any identification of characteristics, or any assessment of instructional needs. The following descriptive data is divided into three areas. The first area, quantity descriptors, includes the following items: the total population of Valley High as of the beginning of testing; the male/female student ratio; attendance patterns; attrition rate; and, the rate of new enrollments.

The second area, socio-economic descriptors, includes these topics: socio-economic family status; ethnic group membership; data on family structure; the amount of special education that students have received; stated discipline problems; and, reasons for referral to Valley High School.

Physical descriptors, the third area, reports the following data: general health information (historical and familial); individual health history; present general health status; assessment of lateral preference; and, the examining nurses' recommendations.

The population at Valley High School can be characterized as a "dynamic" one. It changes from day to day, week to week, and month to month. Of the students referred to Valley, 39.5% attend fifty percent of the time or more; 43.1% attend fifty percent or less; and, 17.4% of those referred do not attend at all. Three times as many boys as girls are students of Valley High School.

Within the community of La Puente, the ratio of Mexican-American families to Anglo families is approximately

1:3. This same ratio is maintained in the student body at Valley High School. Only 1.8% of Valley High School is composed of "others," i.e., Negros or Orientals.

A statistically "average student" is between sixteen and seventeen years old. He is apt to be the middle-born child with four to six siblings. The mean age of his brothers and sisters is 11.7 years, and the mean age of his parents is 42.1 years.

This "average student" lives with both mother and father. He was most probably born in California or the western part of the United States. Generally, he has attended only two elementary schools, one junior high school, and two high schools (including Valley High School). He and his family seem to remain stable members of the community once he is twelve years old.

At home, this "average student" and his family speak English; only a small percentage (19.1) speak both English and Spanish. The student's father is, in most instances, the sole source of financial support for the family. In 17.0% of the population, financial support comes from more than one member of the family, while in 13.4%, the student's mother was named as sole support. The student's father is most likely employed as an unskilled, semi-skilled or skilled worker. In most cases, he works as a mechanic, electrician, or in related trade crafts. The student's mother lists her occupation as housewife.

It should be kept in mind, of course, that the concept of "average student" is an artificial one, and, an extremely wide range of differences within the total population does exist.

In general, students at Valley High School are not a physically atypical high school population. Evidence does suggest some suboptimal student health practices, such as dental care, poor eating habits, and a need for eye and ear check-ups. The health of Valley High School students could be better, but it is not unusual.

II. BEHAVIOR PROBABILITY INDICATORS

The system designer must know those factors which determine the students' predispositions to instruction before he can develop the most effective modes of instructional stimulus. To identify these predispositions the Project investigated the behavior probabilities of the target population at Valley High. In this assessment, a two-fold approach was used. Utilizing information derived from the SOC, the MOWI and the IPS, a description of how the Valley High School student views himself, his peers, his family, his future, his aspirations, as well as his present and past schooling experiences was derived. An attempt was also made to describe the evaluation of Valley High students by others. Information for this was derived from the RHI and the TES.

Personal data indicate that only a small fraction of the Valley High population is married and attending school. However, 27.6% answered that they were engaged at the time. Over one-half of the student body indicated "no chance" of marriage while in high school. A greater proportion of girls indicated that they go out on weekends and one week night only, while more of the boys indicated that they went out every night of the week. Spending habits of the males and females were those normally expected: males spend more on cars and motorcycles; and, females spend more on clothing. One-half of the student body at Valley indicated that they have been arrested. Of this number, members of Group B indicated that they have been arrested for curfew violation or disturbing the peace significantly more often than did Group A or Group C. More females state that they have never been arrested. If in personal trouble, approximately one-half of the students said they would seek help from their own parents; significantly more females than males responded with this choice.

Measured attitudes towards school and particularly towards Valley High indicate that an almost equal percentage of students plan to stay at Valley until graduation as plan to return to regular high school. A significantly high proportion of the Mexican-Americans and females indicated a preference for remaining at Valley. In an assessment of courses offered at Valley, over one-half of the students indicated that all or most of the subjects taught were of value to them. Approximately one-quarter of the student body expressed preference for shop and practice classes. One-quarter of the students indicated a liking for the contract system; and most of the female population seemed to prefer this teaching method to all others mentioned. One-half of the students thought that morning classes would improve Valley High (as opposed to the present afternoon class schedule).

A comparison of MOWI and SOC attitudinal responses to "school abilities," "college" and "graduating" indicate that more than one-half of the students feel positively towards these items. Over one-half feels negatively towards quitting school, which would seem to place this particular population outside that usually classified as potential dropouts.

The data further indicate that in terms of future planning, the general attitude of Valley High School students is positively oriented towards job, further schooling and marriage. More females than males express plans for completing high school as well as for attending a four-year college. More Mexican-Americans than Anglos plan to attend trade or technical schools. The majority of males at Valley expect to be drafted, to enlist, or to join the reserves. More Mexican-Americans expect to be drafted as compared with the Anglos who express a preference for enlisting.

In response to a question regarding job plans, over one-half of the student body indicated that they felt it was too early to decide. This might indicate that they did not have enough information as to available alternatives. Only one-quarter of the students indicated that they want a particular job and that they are taking steps to get it. At the present time, the majority of students are not employed. Of those who do work, a significantly higher percentage are males than females. More members of Group B than Group A work, stating that they are employed thirty or more hours per week. Salary expectations for the future range from $2.00 an hour to $5.00 an hour. A significant number of females indicate an expectation of $2.00 an hour as compared with the general male expectation of $5.00.

Over one-half of the students tested indicated that they do not expect to be working in La Puente or the surrounding areas after graduation. Attendance Group B has higher expectations of working in the La Puente area than Group A. More Anglos indicated that they would be working in the Downey-Bellflower areas than did Mexican-Americans, and more females than males felt that they would work in the La Puente area.

The MOWI data indicate that the students tend to have a positive attitude towards Valley High, the high school counselors and the teachers. Students express a slightly negative attitude towards regular high school, but they are positively oriented towards trying hard, graduating, the future, college, and job. Valley High students hold negative attitudes towards authority and punishment, as well as towards those elements which to their mind represent authority.

In common with most high school students, they tend to have "good" feelings towards classmates and peers, (and this is true irrespective of ethnic origin). Attitudes and feelings towards family, home, mother and father were among the most positive expressed by the students. Students at Valley feel that cheating and quitting school are "wrong." For them, smoking, dating, graduating, trying hard and a job are "right." Measures of self-concept indicate that students feel fairly positive towards themselves but that they have a strong desire to change in the direction of more social acceptability.

Six questions on the MOWI and eight questions on the SOC were designed to measure student aspirations. From these it can be seen that the students at Valley hold aspirations for further schooling, for a job and for marriage. No measures suggest desires for "dropping out" of school.

The evaluation of Valley High students by "others" indicates that there were many expressions of students' remedial need by various teachers prior to their referral to Valley High. In most instances, however, the students were not referred to special education classes. Of the small proportion who were referred, remediation was in the speech and reading areas. Indications are that the students have been given little or no remediation in mathematics.

There is a clear indication of a relationship between the school grade level of first reported "F" and the grade level of first reported behavioral or attendance problem. One-quarter of the students received their first "F" between kindergarten and seventh grade; and within this group, most students received the "F" between kindergarten and fifth grade. Of the remaining students, over one-half received their first "F" at the eighth or ninth grade level. Most of these students show a cluster of "F's" rather than a single failing grade which suggests that at the eighth or ninth grade level either past deficiencies reveal themselves, or that adjustment to adolescence is very difficult for these students.

Schools report most frequently "attendance" and "discipline" as problems for students later referred to Valley High.

These two factors account for approximately two-thirds of the reported school violations. The remaining one-third consists of reports of "academic failure," "dress violation," and "smoking." Referring high schools report parent conferences, letters home, counselor referrals and suspension as means of handling the school violation. Males are generally referred to counselors, and females to parent conferences.

Ten teachers, the principal and the social worker at Valley High School were asked to give their opinions of the students' behavior during the testing period. Most felt that the cooperation level of the student was "fair"; that the student had little interest in the test sessions; and that student attendance decreased in order to avoid the testing periods. They also felt that the testing session was responsible for an increase in disturbing behavior in the classroom, but that the students "tolerated" the break in their usual routine. The majority of the staff felt that the reward system had some effect on student participation. Some teachers, however, expressed feelings that the testing should have been mandatory and without reward. These evaluations might reflect negative attitudes towards the students; or, they might reflect a reaction to the staff's possibly inadequate explanation of reasons for testing; or, they might possibly reflect the Valley High School staff's resentment of a "break" in their routine.

All of the results summarized are for the total population at Valley High. Within this population it is possible to find a variety of individual differences. Consequently, it is neither possible nor correct to conclude that all students at Valley High are academic failures or all behavior problems. Some of the students have indicated that they chose to come to Valley; some recognize their own inability to conform to the middle-class regular high school. Others have been referred because of truancy, but often the cause for the individual truancy was not known.

One important fact should be kept in mind in an assessment of the Valley High student body. The effect of school on any teenager is determined by the entire circumstances surrounding his life. Schools take up a large proportion of the teenager's life. His role as a student encompasses learning to cope with new people, new knowledges and new routines. How he succeeds or fails depends to some extent on himself, and possibly, to an even greater extent on how the school does its work.

III. PRESENT ACADEMIC PERFORMANCE CAPABILITIES

An identification of academic performance capabilities of the student population was required in order to derive the instructional needs of the student. An academic profile can be compared to the collected behavior expectations;

the difference between the two provides a guideline for the development of the projected system.

In order to identify the basic academic performance capabilities of the student population, scholastic achievement and general aptitudes had to be determined. Scholastic achievement encompasses language, reading, spelling and computation. Academic performance, or achievement, can be defined as tested ability to: use language; comprehend selected reading; spell accurately; comprehend numerical concepts; perform general arithmetical operations; and, reason abstractly. General aptitudes are measured in terms of: verbal aptitude; numerical aptitude; spatial aptitude; form perception; clerical perception; motor coordination; finger dexterity; manual dexterity; and a general learning aptitude. The Wide Range Achievement Test (WRAT) and the California Achievement Test (CAT) was used to determine academic skills, and the General Aptitude Test Battery (GATB) to determine the vocational aptitudes of the Valley High School population.

It is possible to interpret WRAT performance in two ways. First, by using standard scores and standard deviation, one can estimate rate of learning. Secondly, one can interpret achievement or performance in terms of grade placement.

Mean standard scores for the total Valley High population range from 80.3 in arithmetic to 83.6 in spelling, and 94.1 in reading. The rate of learning for the total population in the three areas falls between the low average to average classification. In terms of academic achievement, however, results on the WRAT picture the Valley High population as reading at a 7.8 grade level, spelling at a 6.0 grade level, and as having an arithmetic ability comparable to that of the 5.3 grade level.

The Anglo/Mexican-American comparison indicates that the rate of learning as well as the achievement level is significantly lower for the Mexican-American student at Valley High School. No significant differences were found between the male/female or attendance groupings.

A comparison between the WRAT scores and the Teacher Information Matrix indicated that the teachers at Valley High School generally tend to underestimate their students in terms of academic achievement in reading and arithmetic.

It is quite possible that scores and grade placements obtained on the WRAT are the most accurate measure of academic achievement and aptitude for a population such as Valley High. The WRAT tests are of short duration and demand less in the way of motivation and attention from the student.

The evaluation of the student body at Valley High School by the teachers estimated an elementary (grades 1 - 4) reading level for 38% of the students, and an average level (grades 5 - 9) for 48%. On the basis of this

b

information, the junior high school level of the California Achievement Test was selected as proper to the achievement range of the students. All findings are reported relative to the ninth grade norms established by the CAT for this level.

For the total Valley High population, the mean grade placement scores are as follows:

Total Reading - 7.0 grade level
Total Arithmetic - 7.0 grade level
Total Language - 7.4 grade level

The mean grade placement of the student body is approximately two grades below that of the "normal" ninth grade junior high population.

An analysis of mean scores in terms of sex, ethnic and attendance variables shows a difference between males and females on the Total Language section of the CAT to be significant at the .05 level; the female scores being superior to those obtained by the males. No significant differences between Anglos and Mexican-Americans were found, but the general trend was toward higher scores for the Anglos. Apparently, more consistent attendance at Valley High has little effect on the measured academic achievement of the students; little or no difference was found between the scores obtained by the two attendance groupings.

The Diagnostic Profile for the CAT was devised to indicate subject areas in which an individual or a group is strong, typical, or weak relative to given criteria. If one defines the percent of correct responses normed for the ninth grade as 100% in each of the subject areas, findings indicate that in the reading vocabulary area, Valley High students score approximately 20% below the ninth grade; in reading comprehension, approximately 40% below; in arithmetic fundamentals, 40% below; in arithmetic reasoning, 40% below; in mechanics of English, 20% below; and in spelling, approximately 75% below.

The Diagnostic Profile in terms of the variable of sex for the Valley High population reveals an approximate 50% difference between the arithmetical reasoning of females at Valley and the ninth grade criterion. However, in mechanics of English, Valley High females scored only 10% less than do normal ninth graders.

The ethnic analysis indicates that the Mexican-Americans in Valley High School obtained scores in reading comprehension which are 30% below those obtained by the Anglos, and 50% below the ninth grade norm. Scoring on arithmetic fundamentals by the Mexican-Americans was 20% below that of the Anglos, and 40% below the "normal." On arithmetic reasoning, Mexican-Americans scored 10% below the Anglos, and 50% below the "normal."

Slight differences in scoring were shown between the two attendance groupings. In most instances, scores for both attendance groupings fell 20% to 40% below the ninth grade norm.

Thus, the academic achievement of students at Valley High School, as measured by the CAT, is two grade levels below the mean scores established by the ninth grade population norm. The student body at Valley exhibits the same pattern of learning strengths, averages and weaknesses as the norm population, but at an appreciably lower level of proficiency. Differences between performance of males and females in Total Language were significant, with females scoring higher. A general trend of higher scores for Anglos than Mexican-Americans was evident although the differences did not prove to be statistically significant. It is noteworthy that attendance patterns at Valley High seem to make little or no difference in academic performance.

The General Aptitude Test Battery measures the following nine aptitudes: Intelligence (G), Verbal (V), Numerical (N), Spatial (S), Form Perception (P), Clerical Perception (Q), Motor Coordination (K), Finger Dexterity (F), and Manual Dexterity (M). Among groups usually tested by the GATB are high school graduates with no specialized training and young people who are uncertain as to their abilities.

Findings indicate that the mean scores for the total Valley High sample were slightly lower than those of the "normal population." The lowest score made by the Valley High sample was in Numerical Aptitude (N). There is some correspondence between this score and the 5.3 grade placement level made by the same sample on the arithmetic section of the WRAT, and also the 7.0 grade placement level on the arithmetic section of the CAT.

The Valley High population scored near the normal population mean in the Spatial, Form Perception, Clerical Perception and Manual Dexterity categories. Analysis of the scoring distribution compared with that of the normal population indicates that only in Form Perception, Clerical Perception, Finger Dexterity, and Spatial did any Valley High students score between 130 - 150. Scorings at the 110 - 130 level were approximately equal to that of the normal population in Spatial, and above the normal in Clerical Perception. Scoring in Form Perception was also slightly above normal in the 90 - 110 scoring range.

Significant differences were found between male and female scores on Form Perception and Clerical Perception with a superiority indicated for the females. No significant differences were found between Group A and Group B. In an analysis of ethnic groupings, significant differences were found between the Mexican-American and the Anglo in the Intelligence (G) and the Numerical (N) categories. In both instances, the Anglos scored higher; and, with the exception of Motor Coordination, all Anglo mean scores were above those obtained by the Mexican-American.

Analysis confirms that there is a positive correlation at the .05 level between sex grouping and the following aptitudes: Form Perception, Motor Coordination, Clerical Perception and Finger Dexterity. Females performed better in all of these areas except for Motor Coordination. A negative correlation was found between the ethnic variable and Intelligence, Verbal, Numerical, Clerical and Manual Dexterity. In these areas, the Mexican-American did not perform as well as the Anglo student.

GATB scores can be used for many purposes. For example, Aptitude G (Intelligence) has been found to correlate significantly with criteria of academic success in a variety of academic fields. A critical G score has been established for junior college (G = 100), four-year college (G = 110) and professional college (G = 120). Of the total Valley High population, 8.5% scored at the 100 level; 1.8% scored at the 110 level; and, 1.8% scored at the 120 level. Analysis by sex grouping indicates that 10.9% of the males, and 6.5% of the females scored at a level indicating possible success in junior college; 1.6% of the males and 3.2% of the females scored at a level for four-year college; and, 3.1% of the males scored at the professional college level. No Mexican-Americans made scores indicative of possible success in either a four-year college or professional college; 3.3% of the Anglos scored at the four-year college level and 3.3% scored at the professional college level.

The GATB Manual, Section III, presents occupational groupings for which aptitude requirements are substantially the same. These groupings are called Occupational Aptitude Patterns. It was not feasible to include all the occupational patterns in this report. A brief discussion of these patterns is given, however, with a comparative analysis in terms of males and females, Groups A and B, and the Anglo-Mexican-American distribution. One male in the Valley High population qualified in all patterns, and eight males and one female performed at a level which qualified for none.

The GATB Manual indicates that under no conditions should it be assumed that the student is unsuitable for any kind of work, even if his score qualifies him in no occupational patterns. A small proportion of Valley High students performed at a level which would qualify them for "professional positions." Most of the students would qualify for "skilled" occupations such as assembly work, machine operators and factory workers.

The ethnic distribution revealed that no Mexican-Americans qualifed for so-called "professional" jobs. An approximately equal number of Anglos and Mexican-Americans performed at a level which would qualify them in four occupational aptitude patterns which fall within the "skilled to unskilled" classification. Six of the Mexican-Americans, as compared with three Anglos, performed at the "none" level.

Findings suggest that the students at Valley will tend to follow in their fathers' "footsteps" insofar as vocation is concerned. The majority of parents of Valley students are in the skilled/semi-skilled category. Student scores on the GATB indicate these occupations as both possible and probable for them.